



COLONY OF MAURITIUS

ANNUAL REPORT

ON THE

MEDICAL AND HEALTH
DEPARTMENT

1931

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1934

PORT LOUIS:

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MAURITIUS

MAURITIUS

District Boundaries
Roads
Railways



HOSPITALS & DISPENSARIES are shown in the Map by Numbers as indicated below.

<u>PORT LOUIS</u>	<u>FLACQ</u>	<u>PLAINES WILHEMS</u>
Civil Hospital.....1	Flacq Hospital.....11	Curepipe.....26
Eastern Suburb	Trou d'Eau Douce.....12	Vasoas.....27
(St François).....2	Rivière Sèche.....13	Victoria Hospital
Western Suburb	Sébastopol.....14	(Quatre Bornes).....28
(Beli Village).....3	St. Julien.....15	<u>GRAND PORT</u>
<u>PAMPLEMOUSSES</u>	Brisée Verdière.....16	Rose Belle.....29
Terre Rouge.....4	<u>MOKA</u>	Plaine Magnien.....30
Pamplemousses	Moka Hospital.....17	Mahébourg Hospital.....31
(Village).....5	Pailles.....18	L'Escalier.....32
Long Mountain	St. Pierre.....19	Bois des Amourettes.....39
	Quartier Militaire.....20	St. Hubert.....34
<u>RIVIERE DU REMPART</u>	<u>BLACK RIVER</u>	<u>SAVANNE</u>
Poudre d'Or	Petite Rivière.....21	Souillac Hospital.....25
	Bambous.....22	Rivière des Anguilles.....36
Ravin.....6	Tamarin.....23	Chemin Grenier.....37
Grand Gaube.....9	Grande Rivière Noire.....24	Baie du Cap.....38
Grand Bay.....10	Casa Royale.....25	

INDEX

	PAGE
Abattoirs	13
Administration	1
do (Medical Officer of Health Branch)	29
Anti-Malarial Works	11, 27
do (destruction of)	3
do Campaign in Port Louis	30
Ankylostomiasis	12, 7
Bacteriological Laboratory, report on (Appendix I)	19
„ Examination of samples	19
„ „ of malarial parasites	19
„ „ of samples for urea etc.	19
„ „ of sputum samples	20
„ „ of throat and nasal swabs	20
„ „ of pus specimens	20
„ „ of cerebro-spinal fluid	20
„ „ of specimens of pleuritic fluid	20
„ „ of spleen & liver smears	20
„ „ of specimens of faeces	21
„ „ of specimens of urine	21
„ „ of urinary calculus	21
„ „ of organs, tissues & pathological formation	22
„ „ of articles of evidence for judicial authorities	23
„ clinical work performed	19
„ blood counts performed	19
„ tappings (from knee joints etc.)	20
„ experiments on small animals	21
„ identification of intestinal worms	21
„ research work performed	24
„ Administration	24
Births	8
„ in the General population	8
„ in the Indian population	8
„ in Port Louis	29
Birth rate	8
„ „ of Districts	8
Cemeteries in Port Louis	31
Chancre cases admitted to Hospitals	7
Chicken pox	7
Child Welfare	14
Chlorination of Port Louis water	5
Claytonisation of stores	29
Cyclone and effects	3
Damage due by tidal wave	3
Death rate	3, 8
Deaths	8
do due to Malaria & Dysentery (statement)	4
do due to Cancer and other tumours	4
do in the General population	8
do in the Indian population	8
do classification of causes and rates of	9
do more notable causes of	9
do in early infancy	10
do under 5 years and causes of	10
Decorations to Drs J. Maingard and R. Pilot	3
Department, reorganisation of	1
Diphtheria	6
Diseases communicable	4, 7
do malignant (patients admitted to Hospitals)	4
do venereal	7
do helminthic	7, 12
do infectious	7
Dispensaries	17
Dysentery	19
Dysentery-sample examination	19
Economic condition	3
Electro-Medical work, report on (Appendix VII)	41
do in Moka Hospital	41
do in Civil Hospital	42
do in Victoria Hospital	42
Erysipelas	6
Fever, Typhus	5
do Enteric	5, 12
do do cases notified in Port Louis	5
do do precautionary measures against	12, 13
do do statistics	5

Fever Enteric, outbreak of ...	12
do do sample examinations in connection with ...	19
do Paratyphoid ...	19
Filariasis ...	19
do , examination of smears for ...	19
Financial (Revenue and Expenditure) ...	3
Financial Commission (Recommendations) ...	14
Food in relation to Health and Disease ...	13
Food samples analysed at the Bact. Laboratory ...	23
General measures of Sanitation ...	13
do do do in Port Louis ...	30
Gonorrhœa cases admitted to Hospitals ...	7
Health Units ...	1
Hookworm Branch ...	7
do do , report on ...	25
do do staff of ...	25
do infection ...	13, 25
do treatment and results ...	25, 26
do microscopical examination for ...	25
do operations of the Branch ...	25
Hospitals ...	17
do , confinements conducted in ...	15
do on Estates ...	15
do causes of increase of patients ...	15
do return of work done ...	16
do administration of ...	17
do pharmacopeia ...	17
do out-patient departments ...	17
do average daily cost of patients ...	17
do expenditure ...	17
do diet scales (Appendix X) ...	61, 62
Hygiene and Sanitation, measures to spread knowledge of ...	14
do in Port Louis ...	29
Infantile Mortality ...	9, 29
do do rate ...	3, 9
do do distribution of (under 5 years) ...	9
Influenza, outbreak of ...	4
Labour conditions ...	13
Legal ...	3
Leprosy ...	7
„ Board ...	7
„ „ examination by ...	7
Leper Hospital, report on (Appendix VI) ...	41
do admission of patients ...	40
do deaths of patients ...	40
do discharges of patients ...	40
do recreation of patients ...	41
do classification of types of diseases ...	41
do visits to ...	41
Liquid drugs, measurement of ...	17
Malaria ...	11, 19, 29
do anticipation of outbreak ...	3
do species of Anopheles ...	4
do admissions to hospitals ...	4
do patients treated at dispensaries ...	4
do death rate ...	4
do deaths due to ...	4
Malaria, parasites examination of ...	19
„ plasmodium vivax and falsiporum among dispensary patients ...	11
„ abatement of winter refuge in River Profonde ...	12
„ infection ...	13
„ relation with inflammation of kidneys ...	4
„ breeding places of Anopheles Costalis and Funestus ...	11
„ deaths in Port Louis ...	29
„ oiling of mosquito breeding places ...	30
„ work performed by Special Malaria Service ...	11
Markets in Port Louis ...	31
Marriages ...	8
„ rate of ...	8
Maternal mortality, rate of ...	3, 6
„ „ , causes of ...	6
Measles ...	7
Mental Hospital, report on (Appendix V) ...	32
„ population of ...	32
„ criminal patients ...	33
„ probable causes of insanity ...	34
„ alcoholic patients ...	35

	PAGE
Mental Hospital, patient's deaths	35
„ „ death rate	36
„ diseases infectious and allied	37
„ prevalence of sickness	36
„ discharges from	35
„ insane rate	32
„ „ population	32
„ sex distribution of patients	32
„ injuries inflicted by patients	37
„ escapes by patients	37
„ cost of maintenance	38
„ restraint and seclusion of patients	38
„ recreation for patients	38
„ religious Service	39
„ visits to	39
„ dietary	39
„ accommodation	39
„ staff	39
Meteorology	18
Midwives, training of	14
„ board	15
„ regulations	15
„ applications for registration as	15
„ classes of	15
„ reluctance of Indian Community to employ midwives of alien race	14
„ lack of Indian candidates for training as	14
Milk supply, control of	13
„ in Port Louis	31
Night Soil and Conservancy	13
„ „ in Port Louis	30
Night Soil Service in Curepipe	13
„ Beau Bassin and Rose Hill	13
Oeuvre Pasteur de la Goutte de Lait	14
Plague	4, 12
„ preventive work	4
„ in Port Louis	29
Population, estimated on 1st January 1931	8
Port Health work and Administration	14
Prisons and Reformatories	18
Prisoners' Health	18
Public Health	3
„ in Port Louis	29
„ (Food samples examined at the Bact. Laby.)	23
Puerperal Septicaemia	6
„ State	6
„ „ classification of deaths due to	6
Quinine obtained from South Africa	3
„ and Totaquina, distribution of	12, 30
Quinisation in Port Louis	30
Recommendations for future work	14
Refuse, use of, in Port Louis	13
„ „ collection and disposal of	13
„ „ „ in Port Louis	30
Relief work by G.M. Officers and private practitioners	3
Report of Medical Officer of Health, Port Louis (Appendix IV)	29
Return of diseases and deaths (In-patients) App. VIII	44
„ „ (Out-patients) App. IX	53
Rodents caught	29
„ surveillance and trapping of	29
„ microscopical examination of	12
„ routine examination of	12
Sanitary personnel, training of	14
Scavenging Services undertaken by Govt.	13
„ „ cost of	13
„ „ in Townships	13
School Industrial	18
Schistosomiasis	7, 12
Slaughter houses	31
Small pox	5
Special Malaria Service	27
„ „ report on (Appendix III)	27
„ staff of	27
„ brief History of	27
„ investigation by	28
Spleen examination of school children	4
Staff, professional	1
„ District Medical Officers	2

IV

	PAGE
Staff, leave and mutations	2
Statistics, vital	7, 29
Still Births	10
Still Births, in General Population	10
do in Indian population	10
Syphilis	19
do , cases of admissions to hospitals	7
do tests performed at the the Bact. Laboratory	19
Tuberculosis Pulmonary	7
Urine examinations at the Bacteriological Laboratory	21
Worms intestinal, identification of	21
Vaccination of children	5
Vaccines	22
do prophylactic	22
do therapeutic	22
Water Grand River North West	5, 6
„ Bathurst Canal	5
„ Chlorination records	6
„ Chlorinated, complaints re :	6
„ Mare aux Vacoas	5
Water supplies	13
„ supply in Port Louis	31

COLONY OF MAURITIUS

ANNUAL REPORT

ON THE

MEDICAL AND HEALTH DEPARTMENT

1st JANUARY TO 31st DECEMBER, 1931

Administration

The most important event of the year has been the approval given by the Secretary of State for the Colonies to recommendations submitted last year for the reorganisation of the Department. These recommendations are designed to provide the administrative machinery for applying a policy of preventive medicine in the rural districts of the Colony, and they merit a brief reference here in general terms.

2. It is considered that the needs of the rural districts will best be met by confiding all health matters of the Districts to Medical Officers, known as Health Officers whose duty it will be to investigate and take such steps as are practicable to improve conditions affecting the health of the population in their areas of jurisdiction. For this purpose they will be assisted by a staff of trained subordinate officers who will be grouped into units known as Health Units stationed in populous areas. Each Medical Officer will take charge of a number of these units and will be responsible for the work done by them. The Health Unit which it is hoped eventually to establish in a building or group of buildings known as a Health Centre will, in its fully developed stage, consist of a Dispenser, a Sanitary Inspector, a District Visitor and a trained Midwife with the usual subordinate staff of servants. In its most primitive form it may be represented only by a Dispenser. The District Hospital will become the Health Centre of the area in which it is situated and will in addition continue to be maintained, as it is at present, for the treatment and care of patients whose condition does not call for major operative surgical treatment, or for medical treatment requiring special equipment or nursing. The Civil Hospital, Port Louis, Victoria Hospital, Quatre Bornes, and Moka Hospital will deal with all cases requiring special treatment in addition to serving as the hospitals of the districts in which they are situated.

In the rural districts the Health Officer will take charge of the Hospital. The Civil and Victoria Hospitals will continue to be administered as before by Medical Superintendents assisted by the Resident Medical Officers and it is hoped that a similar organisation will eventually be provided for Moka Hospital. During the transition period, however, the same arrangements as are in force at present at Moka Hospital will be maintained. The districts of Port Louis and Plaines Wilhems being urban and sub-urban districts in type will have a Health Officer independent of the Hospital Staff, though working in close cooperation with them.

3. It is interesting to note that this type of organisation has since been recommended for adoption in Rural Areas by a European Conference on Rural Hygiene which was convened by the League of Nations at Geneva from June 29th to July 7th 1931, and published a report (C. 473. M. 202. 1931 III) on July 31st 1931.

4. The Health Unit is designed to operate in a strictly limited area, the aim being to concentrate on populous areas and apply as thoroughly as possible the preventive measures appropriate to local conditions. In intervening areas the principal diseases affecting the public health are, in the order of their importance and susceptibility to remedy, Ankylostomiasis and Malaria. It is thought that these diseases may best be dealt with by the establishment of a special branch of the Department and this will be done. The activities of this branch will be to intensify the treatment campaign against Ankylostomiasis by employing more Medical Officers and to carry out such of the recommendations made by Mr. M. E. Macgregor as may be practicable for the control of Malaria.

Steps will be taken to improve the hospital service so far as the prevailing financial depression will allow.

5. The professional staff of the Department on the 31st December 1931 was as follows:—Director : J. Balfour Kirk, M.B., Ch. B., D.P.H., D.T.M. and H.

Medical Assistant to the Director : Evariste de Robillard, M.R.C.S., L.R.C.P.

Medical Officer of Health, Port Louis : E.R. Gilmore, M.B., Ch. B., D.P.H., D.T.M.

(On leave).

Medical Officer of Health, Plaines Wilhems : vacant.

Superintendent, Bacteriological Laboratory and Government Analyst : vacant.

Sanitary Warden (Northern Districts) : vacant.

Sanitary Warden (Southern Districts) : A.G. Masson, M.B., Ch. B.

Port Health Officer : L. M. J. Raymond Pilot, M.B., B.S., M.R.C.S., L.R.C.P., D.T.M.

& H. (also assisted the M.O.H. Port Louis).

Superintendent, Mental Hospital : J. D. Dyson, M.B., B.S., D.P.M., M.R.C.S., L.R.C.P.
 Assistant Superintendent, Mental Hospital : H. Mollière. M.B., Ch. B., (temporary and provisional).
 Superintendent, Civil Hospital : Y. Cantin, M.R.C.S., L.R.C.P., D.T.M. (on leave).
 1st Resident Surgeon, Civil Hospital : L.N. René Comty, M.B., B.S., M.R.C.S.
 2nd Resident Surgeon, Civil Hospital : F. Bouloux, L.R.C.P., M.R.C.S. (temporary and provisional)
 3rd Resident Surgeon, Civil Hospital : R. Pierre, M.B., B.S., L.R.C.P., M.R.C.S., D.T.M. & H. and D.P.H. (temporary and provisional).
 Superintendent, Victoria Hospital : Louis Rathier du Vergé, M.C., M.R.C.S., L.R.C.P. (on leave).
 1st Resident Medical Officer, Victoria Hospital : V. Pierre Goupille, M.D. (Paris) (on leave).
 2nd Resident Medical Officer, Victoria Hospital : Ralph Mayer, L.R.C.P., M.R.C.S. (on probation).
 Police and Prison Surgeon, Port Louis : H. Madge, M.B., B.S., L.R.C.P., M.R.C.S. (temporary and provisional).
 Government Medical Officer, Plaines Wilhems & Black River : J.J. Maingard, M.B.E., L.M.S., S.A. London, Médecin Colonial (Paris).
 Superintendent, Leper Hospital : J.H. André, M.R.C.S., L.R.C.P.
 Medical Officer i/c Hookworm Branch and Director, Special Malaria Service A.C. d'Arifat, M.R.C.S., L.R.C.P.
 Radiologist : W. R. Dupré, L.R.C.P. & S, L.F.D. & S.
 Deputy Director Laboratory Services : Vacant.
 Sanitary Engineer : L. Naz, M.I.C.E.

DISTRICT MEDICAL OFFICERS

(Government Medical Officers having charge of a district hospital and of all the dispensaries in their district).

Pamplemousses : J. H. André, M.R.C.S., L.R.C.P.
 Rivière du Rempart : S. Piarroux, L.R.C.P. & S., L.F.D. & S.
 Flacq : R. Laventure, M.D. (Montpellier, France)
 Grand Port : R. Lavoipierre, M.D. (Paris) D.T.M. (Paris) L.R.C.P., L.R.C.S. L.R.F. & S. D.P.H. (Temporary and provisional).
 Savanne : J. Cantin, M.D. (Paris) (Temporary & provisional).
 Moka : R. Pilot, M.B.E., M.D. (Lyons). (On probation)

LEAVE, MUTATIONS, &c,

6. Dr. René Pierre was temporarily and provisionally appointed as Resident Medical Officer, Civil Hospital, on the 1st January 1931, in the room of Dr. E. Rama whose probationary appointment expired on the 31st December 1930

The temporary and provisional appointment of Dr. Arthur Célestin, Government Medical Officer, Grand Port, terminated on the 15th January 1931, Dr. R. Lavoipierre was appointed temporarily and provisionally in his stead.

Dr. W. R. Dupré, Government Radiologist, returned from leave on the 24th June 1931 and he resumed duty on the same day.

Dr. L. R. du Vergé, Superintendent, Victoria Hospital, went on leave on the 27th June 1931. He was replaced by Dr. W. R. Dupré.

Dr. J. J. Maingard, M.B.E., Government Medical Officer, Plaines Wilhems, was on leave from the 4th April 1931 to the 4th November 1931. During his absence, the duties were performed by Dr. L. J. Mac Gregor, a private practitioner.

Dr. Y. Cantin, the Superintendent, Civil Hospital, went on leave on the 21st November 1931; Dr. L. N. R. Comty, the 1st Resident Medical Officer was appointed as Acting Superintendent.

Dr. L. V. Goupille, Resident Medical Officer, Victoria Hospital, went on leave on the 21st February 1931.

Dr. L. M. J. Raymond Pilot, Port Health Officer and Assistant M.O.H. Port Louis, was on leave from the 26th July 1931 to the 30th November 1931; during the leave the port duties were performed by Dr. R. Pierre.

Dr. E. R. Gilmore, Medical Officer of Health, Port Louis, was granted 3 months' full pay leave previous to the termination of his engagement. He left the Colony on the 7th November 1931.

Dr. F. J. R. Monplé, M.O.H. Plaines Wilhems, acted as Deputy Director Laboratory Services until the 30th December 1931, and Dr. A. C. d'Arifat, Medical Superintendent Hookworm Branch, was placed in charge of Special Malaria Service from April 1931.

During the course of the year Drs. L. G. Barbeau, F. J. R. Momplé and A. G. Masson; Mr. N. D. Lutchmaya, Chief Clerk; and Chief Sanitary Inspector J. D. Léonce, retired from the Service.

These gentlemen have all long periods of devoted service to their credit and they carry with them the respect and good wishes of all with whom they have been associated.

LEGAL

7. No ordinances affecting the Public Health were enacted during the year.

FINANCIAL

8. The revenue of the Colony for the financial year 1930-31 was ...	Rs. 11,552,210.08
The expenditure on Medical and Sanitary Services out of the Revenue was ...	1,772,699.12
The expenditure on Medical and Sanitary Services from the Improvement and Development Fund was ...	99,153.91

II.—Public Health

9. Two events affected the Public Health during the year, either of which would have been serious enough in itself. The most important has been the continued depression of the sugar industry which has resulted in general impoverishment and a lowering of the standard of living of most of the people. A general lowering in the standard of living manifests itself in diminished resistance to disease which is shown by the increased number of persons succumbing to diseases which are not usually fatal to well-nourished persons. Another consequence of poverty is an increased infantile mortality. All the mortality rates have increased. The death rate is 39.1% as compared with 35.4% in 1930. The maternal mortality rate is 0.5% more than the previous year; the number of still births is 1231 as against 1203 and the infantile mortality rate is 203.0% . The maternal mortality rates and those relating to the newly born continue to rise in spite of the fact that more is now being done for maternal and infant welfare than has been undertaken hitherto.

10. The second important event was the cyclone which passed over the Island on the 5th March. The storm was severe in itself, and its slow rate of movement and the way in which it doubled on its track after having passed over the Colony resulted in its lasting for three full days. The direct loss of life was negligible but much material damage was done by the force of the wind and by flood. As is characteristic of such storms certain places suffered much more than others even in the near neighbourhood. The strip of country about 2 miles broad extending along the base of the Pouce range of hills from Mountain Ory to Nouvelle Découverte was devastated and looked as if it had been subjected to an artillery bombardment. Moka Hospital, which lay in this belt, was completely wrecked; only one ward was left standing. It reflects great credit on the staff that patients were removed from one ward to the other in the height of the storm without a single serious casualty having occurred.

11. The Public Works Department rendered great service in opening up the roads, which were blocked by fallen trees and telegraph poles. On the morning after the storm the main roads were cleared and it was possible to institute measures for the relief of the homeless. The staff of the Department performed such excellent work that I experienced considerable embarrassment in complying with His Excellency's request to submit to him the names of two officers who had distinguished themselves by their conduct during the cyclone. The names of Drs. R. Pilot and J. Maingard eventually suggested themselves and were accordingly submitted. Their colleagues in the Department were subsequently gratified to learn that His Majesty the King had been graciously pleased to signify his appreciation of the work done by conferring upon these Officers the Membership of the Order of the British Empire.

12. A heavy strain was thrown on the Sanitary Branch of the Department in cleaning up the mess left by the storm. A tidal wave had smashed part of the Harbour front of Port Louis and several hundred tons of mud, rotting seaweed and dead fish were strewn about Labourdonnais square which was also littered with the massive teak piles of the wrecked coasters' wharf and other wreckage. An attempt was made to obtain labour to get this material removed before it began to decompose further, as it was already beginning to smell, but no labour was forthcoming until the following day. With the re-establishment of fine weather the services quickly fell back to normal.

13. Many Anti-Malarial works were completely wrecked by the floods. The rainfall during the three days and nights was pretty uniform over the Island and averaged about 50 inches. Not only were old mosquito nuisances re-established but new ones were created. Emergency measures were devised to deal with these as far as possible. An outbreak of malaria was anticipated and extra stocks of quinine were obtained through the kindness of the Government of the Union of South Africa whose action prevented any shortage of quinine.

14. The relief work threw a great strain on the Government Medical Officers in the Districts and steps were taken for the temporary employment of a number of practitioners to assist. Thanks are due to Drs. Chauvin, Sauzier, Mottet, Walter and Rosette for the help they gave the Department on this occasion.

The effects of this disastrous storm will be felt for a considerable time to come. On account of financial stringency it has been impossible to restore important Anti-Malaria works and as temporary anti-mosquito measures are not uniformly successful over long periods an increase in the amount of malaria may be expected.

15. An outbreak of influenza occurred at the beginning of the first quarter of the year, but it had no appreciable effect on the returns of causes of death. It will be noted from the following table that malaria, dysentery and inflammatory diseases of the kidneys all showed substantial increases while deaths ascribed to diarrhoea and enteritis; old age and debility, and the pulmonary diseases were fewer.

Malaria ...	...	...	Increase	524
Pneumonia and Broncho-pneumonia	...	...	Decrease	98
Diarrhoea and Enteritis	...	...	Decrease	265
Bronchitis	...	...	Decrease	40
Old age and Debility	...	...	Decrease	396
Dysentery	...	...	Increase	311
Albuminuria, nephritis & uraemia	...	...	Increase	120

It is possible that there may be some relation between Malaria and inflammatory conditions of the kidneys.

16. 158 patients suffering from malignant disease were admitted to the hospitals, as compared with 164 during 1930. 88 of the tumours were situated in the female genital organs and breast; the stomach and liver accounted for 16; peritoneum and intestinal tract 22; buccal cavity 8, and the skin 16. In 8 cases the site was not specified. The non-malignant new growths numbered 83.

The total number of deaths from Cancer and other tumours in the Colony is given by the Registrar General as 84.

(A).—COMMUNICABLE DISEASES

INSECT-BORNE DISEASES MALARIA

17. Four species of Anopheles are known to exist in the Colony, viz: *A. costalis*, *A. funestus*, *A. maculipalpis* and *A. mauritanus*. The principal transmitter of malaria is *A. costalis*.

It is possible to record only the number of patients suffering from malaria in hospitals or applying for treatment at dispensaries, and the number of deaths declared as being due to this disease.

The total number of patients suffering from malaria admitted to the hospitals was 4,680, an increase of 762 over the figure for the previous year. The case mortality was 3.46%.

The following tabular statement shows the admissions for malaria and deaths ascribed to it during this and the preceding year.

Institutions	MALARIA			
	Admissions		Deaths	
	1930	1931	1930	1931
Civil Hospital ...	1,032	1,441	17	50
Port Louis Prison	104	131	...	1
Long Mountain Hospital	169	387	4	21
Poudre d'Or Hospital	227	307	6	10
Flacq Hospital	556	424	6	18
Mahebourg Hospital	286	391	11	19
Souillac Hospital	384	549	7	16
Victoria Hospital	834	619	19	16
Beau Bassin Prison	91	116	3	...
Moka Hospital...	171	171	11	8
Mental Hospital	47	113	1	3
Barkly Industrial School	17	31	...	...
	3,918	4,680	85	162

The total number of deaths in the Colony from malaria and malarial cachexia, 3984, is equivalent to a death rate of 10.07 per ‰ living. The rate for 1930 was 8.53 per ‰.

Owing to the disorganisation attendant upon the transition from the old type of organisation to the new it has not been possible to include in this year's report the splenic indices of school children in the various districts of the Colony. This feature of the report will be resumed as soon as the Department is restored to its full strength.

PLAGUE

18. The immunity which the Island has enjoyed from plague since 1927 has enabled expenditure upon ratcatching to be reduced. Rodent surveillance is now limited to the harbour area of Port Louis and a strip of the town bordering on the harbour and bounded by Royal Street on the landward side. The object of the rodent surveillance staff is to trap this area systematically in such a way as to cause each premises to be visited at least once a month. All rodents trapped or found dead in this area are microscopically examined for plague infection. The system of recording the data has been improved and better surveillance can now be exercised over the staff.

The other plague-preventive work carried out is recorded in the report of the Medical Officer of Health, Port Louis. (Appendix IV).

TYPHUS FEVER

19. No case of this disease was notified during the year.

(B).—INFECTIOUS DISEASES

SMALL POX

20. There has been no small-pox in the Colony since 1913. 8,288 children were vaccinated during 1931 by the public vaccinators. The data are given hereunder:—

Successful vaccinations on 1st attendance	...	...	7,627
" " on 2nd and subsequent attendances			547
			<hr/> 8,174
Unsuccessful vaccinations	...	...	98
Vaccinations in which the results could not be ascertained...			16
			<hr/>
Total...			8,288

The proportion of children vaccinated by Government Vaccinators to live births is 69.4%.

ENTERIC FEVER

21. 134 cases were notified.

The statistics of Enteric Fever for the Colony generally are shown in the following table.

ENTERIC FEVER FOR THE YEAR 1931

Districts	January	February	March	April	May	June	July	August	September	October	November	December	Total for the year
Port Louis	2	...	2	5	2	2	1	3	...	1	...	1	19
Plaines Wilhems	3	2	3	6	6	4	...	2	3	5	3	3	40
Moka	1	...	...	1	1	1	...	4	2	1	...	1	12
Black River	...	...	...	...	...	...	...	...	...	...	...	...	0
Pamplemousses	...	...	...	...	...	...	...	...	...	...	...	...	...
Rivière du Rempart	...	...	...	...	1	...	...	...	...	...	...	...	1
Flacq	...	1	1	1	1	...	...	...	...	...	...	1	5
Savanne	1	1	1	4	5	2	5	7	3	4	1	6	40
Grand Port	1	...	3	4	4	...	...	3	1	...	...	1	17
Total cases	8	4	10	21	20	9	6	19	9	11	4	13	134

22. In former days Port Louis appreciably influenced the enteric fever statistics. The water supply was taken from a very polluted source and issued to consumers without any purification whatsoever. Gradual improvements were effected by Government, the last of which chlorination of the filtered water has been the most important. Since chlorination was instituted in April 1930 the number of cases of enteric fever notified in Port Louis has been as follows:—

1927		1928		1929		1930		1931	
Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
36	...	30	...	78	29	203	...	19	7

The statistics for 1930 were increased by the outbreak which resulted from the effects of the flood of December 1929. The number of cases for the period 1st June 1930 to 31st December 1930 was only 14.

23. It is unfortunate that the Grand River North West water which is now filtered and chlorinated is not distributed to the whole town. The Eastern tenth still drinks Bathurst Canal water which is as potentially dangerous as the Grand River North West water was formerly. The supply of Mare-aux-Vacoas water is too small to affect the general situation.

24. The chlorination of the water is effected with scrupulous care under what is practically continuous bacteriological and chemical control. Thanks possibly to the pre-filtration the dosage of chlorine required to give a safe water is much smaller than was expected.

For long periods 0.2 parts per million has sufficed to produce a high degree of purification as the following figures show :

Table showing the result of Chemical and Bacteriological analyses of the Grand River North West water supplied to Port Louis.

Serial No.	Date	Kind of water and place of collection	Chlorine added parts per million	B. Coli index per 50 c. c.	Residual hlorine
218	8. 1.31	Municipal rising main on Monneron Hill	0. 8	0	Nil
224	13. 1.31	Maupin Reservoir	0. 6	5	Nil
228	16. 1.31	Monneron Reservoir	0. 8	0	Nil
239	29. 1.31	Maupin Reservoir	0. 6	0	Nil
246	10. 2.31	Municipal rising main—Junction Rd.	1. 0	1	Nil
253	23. 2.31	Maupin Reservoir	0. 5	0	Nil
288	15. 5 31	Monneron Reservoir	0. 4	0	Distinct
296	5. 6.31	do	0.25	0	Nil
316	17. 7.31	Harbour Fountain	0.25	0	Nil
321	31. 7.31	Monneron Reservoir	0.20	0	Nil
361	29.10.31	La Butte Public Fountain	0.20	0	Nil
382	29.12.31	do	0.25	0	Nil

CHLORINATION

As the serial numbers indicate, these records are only a small part of the total number of records made, but they are enough to illustrate some interesting features. The B. Coli index is found by incubating simultaneously for 24 hours at 37° centigrade in Mc. Conkey's bile salt broth medium five separate samples of the water each measuring 10 cc. The number of tubes in which acid and gas develop is quoted as the B. Coli index. It is a good rough guide to the bacterial purity of the water, and hence, of the efficacy of the purification measures in force.

The Dosage table shows how variable is the quality of the water, even when the fluctuation are buffered to some extent by pre-filtration. In the rainy season, extending from November to May the variations are great and occur rapidly. This is seen in sample No. 246 where the water deteriorated to such an extent that even 1 part chlorine per million failed to sterilise it. During the dry season the water is much purer and from June to November a dose of from 0.25 to 0.2 parts per million sufficed.

25. Occasional complaints of taste were made by consumers and it was found that owing to the two main pipes being of different diameter, the larger was causing the stream of concentrated chlorine solution to deviate in its direction. The water in the larger main was thereby hyperchlorinated, while that of the smaller main did not receive an adequate dose. The complaints of taste arose from the area supplied by the larger main. As soon as the cause of the taste was detected steps were taken to improve the mixing of the concentrated chlorine solution with the water before it entered the mains and the complaints ceased. At a later date an additional mixing chamber was designed in the form of a long through furnished with numerous baffle plates through which the water passes before entering the mains, and work on this was in progress at the end of the year.

DIPHThERIA

26. 51 cases of Diphtheria were notified in 1931.

PUERPERAL STATE

27. 183 deaths were registered as being due to the puerperal state.

The deaths are classified as under :—

Puerperal albuminuria and convulsions	...	...	12
Puerperal embolism	...	...	3
Puerperal hæmorrhage	...	...	6
Puerperal sepsis	...	...	31
Abortion	...	...	1
Ectopic gestation	...	...	1
Other accidents of pregnancy	...	...	4
Other toxæmias of pregnancy	...	...	2
Other accidents of child birth...	...	...	123

31 cases of puerperal septicæmia, of which 13 proved fatal, were treated in hospitals—a case mortality of 41.93%.

The maternal mortality rate (the ratio of the number of deaths ascribed to the puerperal state to the total number of births including still births) was 13.9 per ‰ in 1931 as compared with a rate of 13.4 per ‰ for the previous year. As the agencies for the prevention of maternal mortality have not changed, the increase in the rate is probably another indication of the hard times through which the Colony is passing.

MEASLES (Not Notifiable)

28. No death was recorded as having been due to measles.

ERYSIPELAS

29. 80 cases were notified, compared with 44 in 1930. 12 deaths were registered.

PULMONARY TUBERCULOSIS

30. Out of the 15,467 deaths of 1931, 463 were due to pulmonary tuberculosis giving a death rate of 11.7 per 10,000 inhabitants.

LEPROSY

31. The report on the work of the Leprosy Board and of the Leper Hospital appears in Appendix VI.

Under Ordinance No. 47 of 1925 leprosy is compulsorily notifiable and the patients may be compulsorily segregated in an institution under Art. 135 of the Ordinance. The Medical Director or the Governor may order the release of any patient under certain conditions.

The ordinance provides for the establishment of a leprosy Board composed of the Director, Medical and Health Department, the Medical Superintendent of the Leper Hospital and one of the District Magistrates of Port Louis. Any person may notify a suspected case of leprosy either to the Magistrate of the District in which the patient lives or to the Sanitary Authority.

It is the duty of the Magistrate thereupon to order the Leprosy Board to examine this person and to state whether in their opinion the patient is or is not a leper. If the Board report to the Magistrate that the patient is a leper the Magistrate then makes out an order for the compulsory detention of the patient in the Leper Hospital.

Some years ago it was realised that the indiscriminate segregation of all lepers was not effecting the purpose for which this measure was designed. Patients were found only when they were in an advanced stage of the disease. The Board had great difficulty in finding contacts and there was no doubt that concealment of early cases was the rule. It was therefore decided to segregate only patients who were infectious or who, for other reason were better in an institution than they would be at home. Uninfectious lepers were allowed their liberty under surveillance only for so long as they continued to appear as required for treatment. The result of this step has been a new attitude towards leprosy on the part of the public. Contacts are now produced periodically for examination by the Medical Superintendent of the Leper Hospital, such cases as come to the knowledge of the authorities are seen in much earlier stages of the disease, and Dr. André's report printed as appendix bears witness to the more hopeful outlook of the patients themselves.

CHICKEN POX

32. Ten cases of this disease were treated at the Barkly Industrial School Hospital.

VENEREAL DISEASES

33. 364 cases of syphilis, with 10 deaths, were admitted to the hospitals during the year. 285 cases of gonorrhœa were treated, and 98 cases of soft chancre.

(C).—HELMINTHIC DISEASES

ANKYLOSTOMIASIS

34. Proposals for the reinforcement of the Hookworm Branch were made during the year. Ankylostomiasis is undoubtedly at present of greater economic importance than malaria though its less conspicuous manifestations tend to make it figure much less in the public eye. The Department, however, is fully alive to the danger; and proposals have been made to increase by two the number of medical officers employed upon mass treatment work. Unfortunately financial stringency has compelled the amalgamation of duties concerned with routine malaria control with those of the Hookworm Branch but the compromise is not so deleterious as many compromises tend to be because the hookworm treatments are given early in the morning, leaving the afternoon free for anti-malaria work.

The report on the work of the Hookworm Branch is printed as appendix...

SCHISTOSOMIASIS

35. 92 cases of this condition were treated in the hospitals during the year, and 103 at the dispensaries. The local intermediate host has not yet been determined.

VITAL STATISTICS

36. The Vital Statistics of the Colony are calculated on the basis of the number of the population on the 1st January of the year under reference.

The distribution of the population and its density are shown hereunder.

ESTIMATED POPULATION OF MAURITIUS ON THE 1ST JANUARY 1931
BASED ON THE CENSUS FIGURES OF APRIL 1931.

Districts	Area in square miles	Total population	Density per square mile
Port Louis ...	16	54,877	3429·8
Pamplemousses ...	69	37,183	539·0
Riv. du Rempart ...	57½	31,029	539·6
Flacq ...	115	53,176	462·4
Grand Port ...	101	48,863	483·8
Savanne ..	93½	31,266	339·7
Plaines Wilhems ...	78	95,335	1222·2
Moka ...	89	29,385	330·2
Black River ...	101	14,378	142·3
Grand Total ...	720	395,492	549·29 (mean)

The chief feature of interest here is the high density of population : 549·29 per square mile.

MARRIAGES

37. 1,236 marriages were celebrated in 1931 as compared with 1,277 in 1930 : showing a decrease of 41. This is equivalent to a marriage rate (number of persons married to every thousand of population) of 6·2 o/oo against 6·3 o/oo in 1930.

BIRTHS

38. The total number of births for the year was 11,941 (6,057 males and 5,884 females) 4,624 of these occurred in the General, and 7,317 in the Indian population. The birth rate was 30·2 o/oo against 31·5 o/oo in 1930.

The District birth rates (on population as at 1st January of each year) and the five-year mean rates are as follows :—

District	1927	1928	1929	1930	1931	Mean o/oo
Port Louis ...	36·0	38·4	35·6	35·5	33·1	35·72
Pamplemousses ...	33·3	32·6	31·2	26·0	23·2	29·26
Riv. du Rempart ...	34·9	38·7	35·7	32·1	29·9	34·26
Flacq ...	31·1	31·5	29·6	27·2	25·6	29·0
Grand Port ...	31·0	37·3	32·4	30·0	27·6	31·66
Savanne ..	30·7	39·5	31·3	25·7	28·2	31·08
Plaines Wilhems ...	40·3	42·7	39·1	37·7	35·6	39·08
Moka ...	36·0	39·7	33·7	30·3	31·6	34·26
Black River ...	29·0	36·8	30·3	31·2	26·2	30·7
Whole Colony ...	34·5	37·9	34·0	31·5	30·2	33·62

It will be observed that the birth-rate was lower than that of last year.

DEATHS

39. During the year 1931 the total number of deaths was 15,467 (7,943 males and 7,524 females); 4,170 in the General and 11,297 in the Indian population. This number is an increase of 1,126 over the total deaths of 1930.

The death rate for the Colony was 39·1 compared with 35·4 o/oo for 1930 and with 28·9 o/oo for the quinquennial period preceding 1931. The month of maximum mortality was May whilst in 1930 it was March.

The following table shows the district death-rates yearly for the five yearly periods 1927-31 and the average rates for the same period :—

District	1927	1928	1929	1930	1931	Mean o/oo
Port Louis ...	27·7	32·1	35·0	43·3	38·6	35·34
Pamplemousses ...	33·2	40·1	37·8	48·3	46·6	41·20
Riv. du Rempart ...	25·5	26·4	28·1	37·9	45·6	32·70
Flacq ...	27·9	33·1	33·4	37·2	46·7	35·66
Grand Port ...	24·5	27·1	31·7	37·7	44·2	33·04
Savanne ...	24·1	27·0	30·6	27·8	44·7	30·84
Plaines Wilhems ...	18·1	19·0	22·2	25·6	25·8	22·14
Moka ...	25·8	26·6	28·9	30·9	34·7	29·38
Black River ...	28·5	34·0	44·0	39·5	47·2	38·64
Whole Colony ...	25·1	28·2	30·63	35·4	39·1	31·6

The death-rate for Plaines Wilhems is the lowest death-rate of all the districts of the Colony.

The next table, with the figures of 1930, inserted for purposes of easy comparison, exhibits the causes of death and rates classified according to the "Manual of the International, List of Causes of death" adopted by the Registrar General of England. (Based on the 4th Decennial Commission, Paris, 1929).

Group	No. of deaths		Rate ‰	
	1930	1931	1930	1931
1 Infectious & Parasitic Diseases ...	5,520	6,850	13.6	17.3
2 Cancer and other tumours ...	79	84	.2	.2
3 Rheumatism, diseases of nutrition &c ...	110	136	.3	.4
4 Diseases of the blood and blood forming organs ...	107	158	.3	.4
5 Chronic poisoning ...	5	2	.0	.0
6 Diseases of the nervous system and sense organs ...	502	541	1.2	1.4
7 Diseases of the circulatory system ...	272	278	.6	.7
8 Diseases of the respiratory system ...	2,374	2,233	5.9	5.6
9 Diseases of the digestive system ...	2,055	1,740	5.0	4.4
10 Non-Venereal diseases of genito-urinary system and annexa ...	754	868	1.9	2.2
11 Diseases of pregnancy and child birth ...	188	183	.5	.5
12 Diseases of the skin and cellular tissue ...	29	38	.1	.1
13 Diseases of bones and organs of locomotion ...	9	3	.0	.0
14 Congenital malformations ...	4	2	.0	.0
15 Diseases of Infancy ...	1,063	1,039	2.6	2.6
16 Senility ...	378	440	.9	1.1
17 Deaths from violence ...	152	139	.4	.4
18 Ill-defined causes ...	740	733	1.8	1.8
	<u>14,341</u>	<u>15,467</u>	<u>35.4</u>	<u>39.1</u>

The more notable causes of death were as under .—

Diseases	No. of deaths		Rate per ‰ living	
	1930	1931	1930	1931
Malaria and malarial cachexia ...	3,460	3,984	8.53	10.07
Pneumonia and broncho and lobar pneumonia ...	1,571	1,473	3.87	3.72
Influenza ...	372	351	.91	.88
Diseases of early infancy ...	1,063	1,039	2.62	2.62
Phthisis and tuberculosis ...	470	504	1.15	1.27
Diarrhoea and Enteritis ...	1,783	1,518	4.39	3.83
Bronchitis ...	642	602	1.58	1.51
Old age debility ...	836	440	2.06	1.11
Dysentery ...	484	805	1.19	2.03
Albuminuria, nephritis and uræmia ...	717	837	1.76	2.11
Heart diseases (organic) ...	115	206	.28	.52
The puerperal state ...	188	183	.46	.45

INFANTILE MORTALITY

40. The infantile mortality rate is the number of deaths of infants under one year of age occurring in any year for every thousand live births registered during the same year.

The rate for 1931 was 203.0 ‰ as compared with 197.52 ‰ for 1930

The deaths under 5 years were distributed as follows :

	Males	Females	Total
Under 1 year ...	1,272	1,153	2,425
1 year and under 2 years ...	406	452	858
2 years „ 3 years ...	349	381	730
3 years „ 4 years ...	240	349	589
4 years „ 5 years ...	179	199	378
	<u>2,446</u>	<u>2,534</u>	<u>4,980</u>

The following table shows the grouping of these deaths according to the causes inscribed on the death certificates :—

Cause of Death			Under 1 year	1 to under 5 years
General Diseases	...	...	740	1,414
General diseases not included above	...	...	8	16
Diseases of the nervous system and organs of the special senses	...	...	54	113
Diseases of the circulatory system	...	...	—	3
Diseases of the respiratory system	...	...	311	360
Diseases of the digestive system	...	...	238	464
Non-venereal diseases of the genito-urinary system and annexa	...	...	3	36
Diseases of the skin and cellular tissue...	...	...	8	12
Diseases of the bones and organs of locomotion	...	...	—	—
Malformations	...	...	1	—
Diseases of early infancy	...	...	1,039	—
Affections produced by external causes...	...	...	2	18
Ill-defined causes	...	...	21	119
All Causes			2,425	2,555

The distribution of the deaths attributed to the diseases of early infancy and a comparison of these figures with those of 1930 is shown below :—

Designation of diseases and accidents			1930	1931
Infantile debility	...	...	990	917
Premature birth	...	...	53	105
Atelectasis	...	...	14	7
Injuries at birth	...	...	3	3
Diseases of umbilicus, etc.	...	...	2	3
Icturus neonatorum	...	...	—	1
Pemphigus neonatorum	...	...	—	2
Other disease peculiar to early infancy	...	...	1	1
Total			1,063	1,039

STILL-BIRTHS

41. A still-birth is defined by the Registrar General as “ a child born dead at or after the seventh month of pregnancy. ”

The number of still births registered during 1930 and 1931 is as under :—

District	Males		Females		Total	
	1930	1931	1930	1931	1930	1931
Port Louis	94	102	90	83	184	185
Pamplemousses	65	59	51	34	116	93
Rivière du Rempart	49	78	49	57	98	135
Flacq	84	100	85	68	169	168
Grand Port	69	83	58	67	127	150
Savanne	42	59	36	48	78	107
Plaines Wilhems	132	135	129	136	261	271
Moka	68	44	55	44	123	88
Black River	30	21	17	13	47	34
	633	681	570	550	1,203	1,231

It is equivalent to 103.1 ‰ of live Births, for the same period, as compared with 94.0 ‰ for 1930.

The still-births are distributed as follows for the two great classes of the population.

	Males	Females	Total
General population	185	141	326
Indian population...	496	409	905
Total	681	550	1,231

III.—Hygiene and Sanitation

INSECT-BORNE DISEASES

MALARIA

42. The Report for 1930 contained a historical summary of the Anti-Malaria policy of the Government from the time when epidemiology of the disease was placed by Ross on a scientific foundation until 1930. The recent development of the campaign into two more or less complementary branches was indicated and the results of current work recorded.

The distinctive features recorded by Macgregor began however, to blend, owing to the extension of the winter range of anopheline breeding into areas in which it was not formerly observed. It was anticipated that the very heavy rainfall of the first quarter of the year would lead to widespread anopheline dispersion causing the appearance of breeding places in areas not hitherto occupied by this genus, but it was hoped that the advent of cool and dry weather would be followed by the restriction of these species to the localities which we have come to regard as the normal winter refuges. This has, unfortunately, not been the case. *Anopheles costalis* and *funestus* were found in six different breeding places in Curepipe during July and August. Moreover, evidence was obtained that Malaria was being contracted in Curepipe itself. Dr. d'Arifat, who had taken over the Special Malaria Service from Dr. Barbeau on the latter's cessation of duty in April, arranged for blood films to be taken from every patient calling at the Curepipe Dispensary complaining of "fever."

The history of thirty two such patients was carefully investigated and in 15 it was established beyond reasonable doubt that they had not been away from Curepipe for the last year or so. *Plasmodium vivax* was found in 12 cases and *Plasmodium falciparum* in three; Gametocytes were present in two cases, whilst all the others showed ring forms of the parasite. On analysis, the 15 cases were found to comprise three groups, each situated in a different locality; one at Forest Side; one at Curepipe Road and one at Camp Caval and in each of these localities *A. Costalis* larvae were found during the quarter.

The important township of Quatre Bornes is also threatened by a focus which exists at La Source, a small hamlet $\frac{1}{4}$ mile to the west of Quatre Bornes. During the course of a hookworm treatment campaign in this locality, Dr. d'Arifat found a strikingly large number of persons with enlarged spleens. On investigation the splenic index was 36% in 122 persons examined. The parasite rate was as follows in 101 persons:—

Adults	...	...	28	{ Positive 9 or 32%
				{ Negative 19 or 68%
Children	...	...	73	{ Positive 58 or 79.4%
				{ Negative 15 or 20.6%

The distribution of the species of the parasites was *Plasmodium vivax*; 23 or 32.4%; *Plasmodium falciparum*, 43 or 60.6% and *Plasmodium Malariae* 5 or 7%.

The work performed by the Special Malaria Service since 1927 has revealed the steady invasion of the central plateau by the two formidable transmitters of malaria in the Colony; *A. costalis* and *A. funestus*. Between Macgregor's departure in 1923 and 1927 encroachment had occurred to such an extent that instead of there being only 10 winter refuges, sixty one were recorded. During 1928, 1929, 1930 and 1931 the same survey work was carried on and the number of winter refuges amounted to one hundred and twenty eight. There is, moreover, this difference; that locally contracted Malaria is now recorded from places from which it was formerly absent.

These discoveries have been acted upon so far as the limited resources of the Colony have allowed and the result of the action taken has enabled the Department to hope that only sixty five of the one hundred and twenty eight breeding places referred to above as winter refuges truly answer to this description i.e. places where anopheline larvae are continually to be found throughout the cool season, the others being more or less of a temporary nature. Nevertheless the fact remains that extension has taken place to such a degree as to oblige us to reconsider what the anti-malarial policy of the Government is going to be.

It is highly unfortunate that these events have taken place during a period when the financial resources of the Colony have been growing steadily less. Moreover the development of a financial depression which can only be described as extremely acute not only in Mauritius but in the United Kingdom itself makes the formulation of a practicable policy a subject of considerable difficulty, especially when so much controversy exists regarding the choice of method. We are faced with the urgent necessity of taking action directed towards the eradication of Malaria from a region formerly Malaria-free as well as with the maintenance of Anti-Malaria works of variable value, but having in common this feature that if they are allowed to deteriorate for any length of time they will require to be reconstructed at a later date.

During 1930 therefore the policy adopted by the Department was to exercise constant surveillance over the area of country limited by the 600 foot contour ; known conveniently as the Central Macgregor Zone in which the inland winter refuges are situated ; to apply systematically larvicides to dangerous collections of water in this zone ; and to undertake such drainage and upkeep works as were necessary in routine maintenance. Only one major work was undertaken, the abatement of an inland refuge on the Riviere Profonde about 2,000 feet above the Reduit Waterfall. This was a long-standing nuisance caused by an area of rock closely pitted with holes varying in size from an inch to several feet in diameter. It was exposed to the sun and formed an ideal breeding place for *A. costalis*. As it was a comparatively isolated refuge, constituting a threat to the townships of Rose Hill and Beau Bassin from the East, and a resident population of several hundreds in the neighbourhood the rock was levelled and covered by a reinforced concrete paving sloped to prevent the retention of water on its surface.

In the rural areas where many of the Anti-Malarial works have not yet made a marked impression on the salubrity of the locality, maintenance was placed on a new footing whereby the labourers operate the cantonnier system by which they are paid by results. The arrangements for the adoption of this system were completed towards the end of the year.

Quinine and totaquina were as usual, made as widely available as circumstances permitted. The good offices of the Elected Members of the Council ; of the Mayor of Port Louis and of public spirited members of the general public were gratefully accepted in arranging for the distribution of these substances. It is fully realised that the widespread distribution of quinine and similar remedies does not appreciably affect the epidemiology of Malaria in a locality ; but it undoubtedly exercises benefit in cutting short the paroxysms of disease and in enabling the sufferer to work when otherwise he would be confined to his hut. As many of the labouring population have very slender resources, illness leading to incapacity has almost immediate economic consequences and so far as the distribution of quinine can mitigate these so far is it performing a useful part in the campaign.

PLAGUE

43. Routine rodent examination was discontinued in the rural districts but was maintained in Port Louis and Plaines Wilhems.

The following tables record the work done :—

DISTRIBUTION OF RODENTS

Port Louis	...	...	20,932
Plaines Wilhems	...	..	8,283
Total			29,215

RODENTS MICROSCOPICALLY EXAMINED

Districts		Examined	Infection	Infection Rate
Port Louis	...	20,932	Nil	Nil
Plaines Wilhems	...	2,709	Nil	Nil

The report of the Medical Officer of Health, Port Louis, gives further details.

HELMINTHIC DISEASES

ANKYLOSTOMIASIS

44. The report of the Medical Officer in charge of the Ankylostomiasis Campaign is printed as an appendix.

SCHISTOMIASIS

45. There is no advance to report regarding this subject.

ENTERIC OR TYPHOID FEVER

46. It is expected that the improvements which have been effected in the main water supplies of the Colony will make epidemics of enteric-fever a thing of the past. Most of the cases now occurring are sporadic, though family or small local outbreaks may occur. It is very difficult to trace the origin of such outbreaks, especially in rural areas where mild attacks may run their course unrecognised by the patient and unnoticed to the sanitary authority. When typhoid fever is notified to the sanitary authority, the premises are visited by a sanitary officer who conducts an enquiry designed to trace the origin of the infection and advises

those concerned regarding the means to be taken to prevent the spread of the disease. Disinfectants are supplied and their proper use explained. On the death or recovery of the patient a general disinfection is made of the premises and of effects likely to be contaminated.

It is seldom that the enquiry ever reveals the source of the patient's infection.

GENERAL MEASURES OF SANITATION

NIGHT SOIL AND CONSERVANCY

47. The report of the Medical Officer of Health describes the night soil soil and conservancy work done by the Department in Port Louis.

The night soil service at Curepipe is also carried out by the Health Department. Some 1,010 services are performed there daily on an average. The double-bucket system is in operation throughout the Island.

In other parts of the Colony where pail services exist, the work has been done either by the local authority, e.g., Rose Hill—Beau Bassin Board of Commissioners, or by contractors working under Government supervision. The services have been satisfactory upon the whole.

COLLECTION AND DISPOSAL OF REFUSE

48. This has been effected satisfactorily during the year with the exception of the Scavenging Service of Vacoas. In this case the contractor was so unsatisfactory and incorrigible that the service was taken out of his hands. It is now carried out by the sanitary staff and complaints have been few.

All scavenging services cost more in the Colony than they should, owing to the large quantity of vegetable refuse which requires removal and disposal. In a town like Port Louis this is unavoidable, but in the Townships and in the districts generally, much garden refuse which could easily be disposed of by burying in the garden or by conversion into humus is thrown out on the roads for removal by the scavenging gangs. There is no doubt that if garden refuse susceptible to treatment on the premises were so treated, an economy could be made in the scavenging services generally, while at the same time the soil of the gardens would be enriched to an appreciable degree.

The Port Louis refuse is still used for reclamation, and the operations are not unduly offensive though on account of the pressing need for economy they are not conducted as they would be in more prosperous times. If a top dressing of about one foot or eighteen inches of soil could be applied to the surface of the dumps after levelling the appearance of these dumps would be greatly improved. At the present time this is out of the question.

In the Townships the Boards are responsible for the conduct of the scavenging services and the work has been satisfactory. In other areas the Government undertakes the work, either directly as in Vacoas, and the Rose Belle Mahebourg Sections, or through Contractors.

WATER SUPPLIES

49. The Medical Officer of Health's report records the condition of affairs in Port Louis.

The Northern Districts have now a satisfactory piped supply.

In the South, improvements have been made, but there are still places where the supply is very unsatisfactory.

LABOUR CONDITIONS

50. It would appear that the general hygienic conditions under which contracted servants are housed on estates have been generally satisfactory.

There have been no widespread epidemics in the rural areas and the most insidious and important infections from the economic point of view are hookworm infection and malaria, both of which are endemic, and practically widespread.

FOOD IN RELATION TO HEALTH AND DISEASE

51. There are six public and seven private abattoirs in the Colony. The public abattoirs administered by the Municipality of Port Louis, the boards of Beau Bassin, Rose Hill and Curepipe are each controlled by a veterinary officer.

The other abattoirs are conducted under the supervision of the Sanitary staff.

The quality of the public milk supply is controlled by the Medical and Health Department.

MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION

52. The Hookworm control staff deliver talks on hookworm infection and its prevention on the occasions on which mass treatments are being given. The sanitary staff have also been instructed to lose no opportunity of giving advice on hygienic subjects in the course of their routine duties. It is hoped that by entrusting sanitary duties to the Government Medical Officers of the districts opportunity will be provided for the effective dissemination of a knowledge of elementary hygienic practice in the Colony. It is also hoped that as the Department attains its proper complement it will be able to reinforce the hygienic instruction given in the schools.

TRAINING OF SANITARY PERSONNEL

53. The urgent need for retrenchment and the complete stoppage of recruitment for the junior posts in the Sanitary Branch of the Department has made formal lectures unnecessary. The closer association between the Medical Officer and the subordinate staff which will be effected by the reorganisation should result in a great improvement in the knowledge and performance of the junior members of the staff.

RECOMMENDATIONS FOR FUTURE WORK

54. The advent of the Financial Commission and the time necessary for full consideration of its recommendations have caused what has been perhaps an unavoidable delay in putting the reorganisation proposals into effect. It is hoped that outstanding questions, some of which are of primary importance, will receive early settlement and that the transition period, which is always a time of uncertainty and generally of disorganisation to some extent or other, will not be allowed to last any longer than is necessary. The urgent need of the Department is organisation.

IV.—Port Health Work and Administration.

55. The following table summarises the work done by the Port Sanitary Authority :

VESSELS ARRIVING		CREW EXAMINED		PASSENGERS EXAMINED	
Sailing craft	Steamers	Sailing craft	Steamers	Sailing craft	Steamers
13	203	200	16,997	406	3,080
Vessels given pratique on arrival	Vessels given pratique after disinfection of the dirty linen and effects of the passengers, crew, fumigation and disinfection of the fore-castle	Vessels given pratique after claytonising	Vessels arriving from infected ports	Vessels detained for purposes of disinfection and fumigation on account of plague, cholera and small pox	
149	28	39	67	67	

V.—Maternity and Child Welfare

56. There are three agencies in Mauritius devoted to the prosecution of work on behalf of mothers and babies. Two of these agencies are Voluntary Societies : (a) The Mauritius Child Welfare which works at present in the Districts of Plaines Wilhems and Grand Port, and (b) the Œuvre Pasteur de la Goutte de Lait confining its activities to Port Louis. Both do excellent work amongst the labouring classes, and the Government and other public bodies have recognised the value of the work they do by contributing to their revenue by grants from public funds. The de Chazal Fund has also made substantial contributions.

The direct activities of the Government have been limited to the training of Midwives (see the following paragraph) and to the provision of a trained midwife at each of the rural hospitals. The duties of the hospital midwives consist of visiting expectant and nursing mothers, giving them advice and attempt to persuade the expectant mothers to entrust the conduct of their confinement to qualified persons. Few of these midwives are of Indian race and the efforts to persuade the Indian community to abandon their traditional methods and to have their confinements conducted according to modern standards are still very disappointing. A still more disappointing feature is the apparent lack of Indian women of sufficiently good education to enable them to attain the modest standard laid down for candidates for midwifery scholarships, so that we are faced with this situation that the Indian community will not employ midwives who are not of their own race and are unable to produce suitable women of their own race for training. So long as these circumstances persist, little progress can be expected.

Summary of the work performed by the Visiting Midwives in 1931.

Locality	No. of visits made	No. of confinements conducted
Curepipe ...	400	33
Grand Port ...	510	65
Flacq ...	349	15
Rivière du Rempart ...	65	138
Savanne ...	85	23

VI.—The Midwives Board

57. This Board held 4 sittings during the year. The composition of the Board was as follows :—

The Director, Medical and Health Department,—*Chairman*.
 The Medical Superintendent, Civil Hospital.
 The Medical Superintendent, Victoria Hospital.
 Dr. C. Mayer.
 Dr. A. Delaitre.

7 applications for registration were considered, and the Board being satisfied that the applicants were of good character and otherwise eligible ordered that their names be entered on the Register of Midwives.

25 Candidates were selected for training as midwives in the different hospitals in the Colony. On the 17th February and 21st August 1931, the Board held an examination for the award of certificates as Second Class Midwives ; out of 12 candidates, 11 succeeded in obtaining their certificates (5 in February and 6 in August).

The Regulations published under G.N. No. 180 of the 30th July 1927 provide for two classes of midwife. The first class for literate persons of a good general education, the second class for women illiterate or uneducated but of known respectability and capacity. The policy of the Board is, naturally, to encourage the training of midwives of the first class rather than those of the second, but local conditions make the recognition of a second class indispensable in the meantime.

VII.—Hospitals

58. The work of the general hospitals of the Colony is summarised in Appendix VIII It will be seen that 30,349 patients received hospital treatment as compared with 27,190 in 1930. The number of confinements conducted in hospitals was 809 against 708 for the previous year.

The increase in the number of in-patients is due to a number of factors, some of which have already been indicated. Another factor which may possibly become increasingly operative is the closure of estate hospitals. The Labour Ordinance passed in 1922 gave no adequate security to the estate proprietor for the fulfilment by any servant of the terms of his agreement. Many estates therefore ceased from engaging labour by contract and, as one means of lowering their administrative charges, suppressed the hospital service which would otherwise have been obligatory. The progress of this movement is shown in the following table :—

Table showing the numbers of estate hospitals closed year by year.

Year	Estate hospitals closed	Hospitals remaining
1922 ...	Nil	75
1923 ...	6	69
1924 ...	3	66
1925 ...	6	60
1926 ...	7	53
1927 ...	2	51
1928 ...	1	50
1929 ...	3	47
1930 ...	2	45
1931 ...	4	41

When one recollects that the estate hospitals admitted for treatment not only the labourers but also their wives and families, one can appreciate how much more strain is thrown upon the government hospitals by the closure of hospitals on the estates.

REPORT ON HOSPITAL WORK FOR THE YEAR 1931

The following table summarises the work of the individual hospitals :—

Hospitals	Patients remaining on 31.12.30	New admissions	Deaths	Patients remaining on 31.12.31	No. of beds	No. of surgical operations	Particular diseases causing largest No. of Admissions	Particular diseases causing largest No. of deaths
Civil	187	8,862	637	186	289	2,387	Influenza, Malaria, Bronchitis, Tuberculosis, Dysentery, Nephritis, Enteritis and Ankylostomiasis.	Tuberculosis, Nephritis, Enteritis, Malaria, Ankylostomiasis and Myocarditis.
Port Louis Prison	4	392	2	5	16	18	Malaria, Influenza, Bronchitis, Asthma	Pneumonia and Malaria.
Long Mountain	27	1,516	114	46	32	103	Dysentery, Diseases of the digestive system and skin diseases. Malaria, tuberculosis, Dysentery Diarrhoea, and Nephritis.	Malaria, Dysentery, Diseases of heart, Bronchitis, Pneumonia and Diarrhoea.
Poudre d'Or	25	2,680	62	26	70	208	Malaria and Ankylostomiasis.	Dysentery and Ankylostomiasis.
Flacq	18	2,133	165	18	84	306	Malaria and Ankylostomiasis.	Enteritis and Malaria.
Mahebourg	40	2,894	169	36	108	526	Ankylostomiasis and Pulmonary Tuberculosis.	Pneumonia and Nephritis.
Souillac	42	2,723	160	73	76	307	Ankylostomiasis.	Ankylostomiasis.
Victoria	108	5,748	388	127	254	1,541	Malaria, ankylostomiasis and abscesses.	Ankylostomiasis, Pneumonia and abscesses.
Beau Bassin Prison	8	613	25	25	32	52	Malaria, Cellulitis and Diarrhoea.	Heart Disease, Ankylostomiasis and Cachexia.
Moka	30	1,769	75	28	83	839	Appendicitis, Malaria, Diarrhoea and Ankylostomiasis.	Diarrhoea and Pneumonia.
Mental (Infirmary for Physical diseases)	9	456	56	9	56	128	Malaria, Epilepsy, Abscess, Dysentery and Influenza.	Acute and lobar Pneumonia, Cerebral Hæmorrhage and Bronchitis.
Barkly Industrial School	...	65	...	...	...	2	.....	.....
Total	498	29,851	1,853	579	1,100	6,417		

HOSPITAL ADMINISTRATION

59. In order to compare the expenditure of the hospitals with one another a return was required from each showing the daily expenditure incurred per patient under a number of items of the Estimates. The items were :— “ Travelling and Transport ” ; “ Services rendered by Railways ” ; “ Provisions, fuel and lighting ” ; “ Drugs and instruments ” ; “ Implements, stores and disinfectants ” ; “ Clothing, bedding, uniforms and washing ” ; and “ Extra Assistance, Medical and Other.” These items include the greater part of the provision made on behalf of the hospitals. They do not include, however, the personal emoluments of the permanent staff. The following figures show the daily average expenditure per patient for the last two quarters of 1931 :—

		Average cost per patient daily	
Hospital		June—September	October—December
Group A.	{ Flacq	72 Cents	78 Cents
	{ Maheburg	60 „	62.9 „
	{ Souillac	58 „	54 „
	{ Long Mountain	65 „	57 „
	{ Poudre d’Or	58 „	59 „
		Average 62.6 cents	
Group B.	{ Victoria	97 „	84 „
	{ Civil	88 „	77.3 „
	{ Moka	102 „	90.3 „
Group C.	{ Leper	62 „	65 „
	{ Mental	39.6 „	50 „

The hospitals have been grouped according to the work required of them. The establishments of Group A. take medical and simple surgical cases, surgical operative work is restricted as much as possible ; patients requiring operative treatment being drafted to the hospitals of Group B. The B Group are general hospitals with a preponderance of surgical wards. Victoria and Moka hospitals have wards for the reception of 1st class paying patients whose dietary and equipment are more expensive than those of the 3rd class and pauper patients so that the daily average cost per patient is a good deal higher than it is in hospitals of Group A. The C Group comprises the residential institutions. The figures in this group are scarcely comparable because the Mental hospital patient-days amount to over 63,000 whereas those of the Leper hospital number only 4,000.

The diet scales are shewn in Appendix X.

These figures show that the cost of maintenance of patients is very moderate, and it reflects credit upon those responsible for the careful and efficient management of the institutions under their charge.

The Pharmacopoeia in use in the Department was reviewed in consultation with the Medical Officers concerned and a standard Pharmacopoeia was drawn up for use in dispensaries This will considerably simplify the ordering of drugs from suppliers and the accounting for drugs in use.

Considerable confusion has been caused in the past by the use of Avoirdupois measure in the ordering of liquid substances and this practice has been stopped. Liquids are now ordered and accounted for in measures of capacity and not of weight.

VIII.—Dispensary Returns

60. The dispensaries and hospital out-patient departments were consulted by male patients 121,234 times and by female patients 112,237 times ; total ; 233,471 consultations.

The number of new cases during the year amounted to 178,246. In 1930, 157, 647 new cases were recorded.

As an emergency measure, an old motor lorry belonging to the Department was converted into a travelling dispensary which toured part of Pamplémousses District at stated intervals. The work done by the Medical Officers in charge was greatly appreciated by the inhabitants of the area through which the dispensary toured, who would otherwise have been obliged to walk several miles for their medical attention.

On account of the density of population in this area, the travelling dispensary has been maintained throughout the year.

IX.—Prisons and Reformatories

61. There are two prisons in the Colony, one at Beau Bassin, the other in Port Louis. The Industrial School for juvenile delinquents is at Beau Bassin.

The health of the prisoners has been good and no deficiency diseases have been recorded.

X. —Meteorology

62. The Director of the Observatory has kindly furnished the following table.

METEOROLOGICAL RETURN FOR THE YEAR 1931

From the records of the Royal Alfred Observatory 178 ft. above sea level.

Months	Temperature °C					Humidity	Rainfall	Wind		Remarks
	Mean of daily minima on grass	Mean of daily shade maxima	Mean of daily shade minima	Mean daily range	Mean	Mean percentage	Amount in inches	Resultant Direction	Mean recorded speed m/s	
January ...	22.5	29.5	23.6	5.9	26.0	81.4	11.80	E,	2.89	Max. Shade Tem. 31.6°C Jan. 22. Max. gust 33.5 m/s March 5 Max. rainfall in 24 hrs. 14.80 ins. March 4-March 5.
February ...	21.3	28.9	22.9	6.0	25.5	82.5	21.45	E.	2.87	
March ...	20.9	29.1	23.0	6.1	25.5	77.3	25.12	E. S. E.	5.11	
April ...	19.9	28.0	21.8	6.2	24.5	80.5	7.15	E. by S.	3.53	Min. Shade 14.0 °C August 21.
May ...	16.9	26.2	19.3	6.9	22.5	76.9	5.00	E. S. E.	3.35	
June ...	16.8	25.4	19.5	5.9	22.1	76.3	2.07	E. S. E.	3.66	
July ...	14.4	24.5	17.5	7.0	20.5	77.2	1.86	E. S. E.	3.41	
August ...	38.8	24.1	17.2	6.9	20.3	75.6	1.20	S.E. by E.	4.18	
September ...	14.7	25.7	17.1	8.6	21.1	72.6	2.28	E. S. E.	3.13	
October ...	15.9	26.6	18.4	8.2	22.2	69.1	0.58	E. by S.	3.41	
November ...	19.2	28.1	20.3	7.8	23.8	74.7	3.82	E. by N.	2.56	
December ...	18.8	29.4	21.5	7.9	25.2	71.6	1.46	E.	2.88	
Year ...	17.9	27.1	20.2	6.9	23.3	76.2	83.79	E. by S.	3.41	

XI.—General

63. This report deals only with the Medical and Sanitary work of the Department, but the Medical Officers of all districts excepting Port Louis perform the duties assigned to Poor Law Officers. They are, consequently, responsible for the investigation of claims for poor relief, for the disbursement of doles to paupers in their districts, and for the accounting of whatever moneys they handle. In this work they are assisted by a certain number of the Dispensers who act in a clerical capacity and assist also in the enquiry regarding the financial state of applicants. The only merit of this arrangement is that it is a cheap way of providing relief for the destitute. From the administrative point of view it is to be regretted that the time of a professional staff should be absorbed in the performance of duties which require no professional ability for their accomplishment and could, in my opinion, be entrusted to laymen without any loss of efficiency.

64. It is my pleasant duty to thank all members of the Department for their willing co-operation in the work recorded here.

BALFOUR KIRK,
Director.

APPENDIX I

ANNUAL REPORT OF THE BACTERIOLOGICAL LABORATORY
FOR THE YEAR 1931

The total number of samples, articles and animals examined at the Bacteriological Laboratory in the year 1931 was 12,060 as compared with 14,199 in 1930. The decrease has been specially marked in the case of research work where it was not possible to continue work on the life history of the *Schistosoma hæmatobium*.

The figures for the last ten years show as follows :—

In 1922 ...	1,850 examinations	In 1927 ...	8,062 examinations
1923 ...	3,014 „	1928 ...	11,841 „
1924 ..	4,012 „	1929 ...	9,391 „
1925 ...	5,167 „	1930 ...	14,199 „
1926 ...	5,077 „	1931 ...	12,060 „

The arrangement into chapters adopted in previous annual reports is again adhered to on the present occasion for the sake of convenience and facility of comparison.

I.—CLINICAL WORK

This heading comprises examination of materials received for diagnostic purposes from general practitioners throughout the Colony. Work for private parties is carried out free in the case of patients declared by their medical attendant to be unable to pay the laboratory charges ; otherwise, a fee is claimed in accordance with a scale fixed by Regulations. The revenue derived from that source is shown in the last chapter of this report.

A total of 7,035 samples were received for examination under this head against 7,234 in 1930. Cultural investigation, followed by experimental inoculation when required, was made in connection with 689 of these samples. The materials examined included specimens of blood, sputum, throat, nasal and uterine swabs, urine, faeces, pus, cerebrospinal fluid, new growths and various pathological discharges.

(1) *Blood*.

(a) *Malaria* :—The total number of smears examined for parasites was 274 with positive results in 103 cases as under :—

<i>P. vivax</i> ...	...	in 76 cases
<i>P. falciparum</i> ...	...	„ 24 „
<i>P. malarix</i> ...	...	„ 1 „
<i>P. vivax</i> and <i>P. falciparum</i> ...	...	„ 1 „
<i>P. malarix</i> and <i>P. falciparum</i> ...	...	„ 1 „

(b) *Filariasis* —65 smears were received for examination for filaria embryos, 8 showed *Microfilaria Bancrofti* viz : 12.3%.

(c) *Typhoid and Paratyphoid fevers*.—The samples received in connection with these diseases amounted to 372. Of these 335 were tested for agglutinins by Dreyer's method with positive results for typhoid fever in 84 cases. Agglutination tests for *B. paratyphosus* A and B were made in five cases which all proved negative. Out of 32 cultures on bile-salt broth one was positive for Eberth's *B. typhosus* and none yielded *paratyphosus* A and B.

(d) *Dysentery*.—One sample was tested for agglutinins by Dreyer's method for Shiga's bacillus with negative results.

(e) *Syphilis*.—2,049 Wassermann's tests were done. The results were positive in 476 and weakly positive in 146 cases. 188 samples showed no hæmolytic power.

(f) *Blood Counts*.—Differential leucocyte counts were made in 54 cases. Red cell count was performed on one sample.

(g) *Urea and other values*.—579 samples were received and analysed as under :—

Estimation of urea ...	...	in 523 cases
„ chlorides ...	...	„ 29 „
„ glucose ..	..	„ 16 „
„ uric acid ...	...	„ 3 „
„ calcium ...	...	„ 2 „
„ phosphates ...	...	„ 2 „
„ non protein nitrogen		„ 2 „
„ differential proteins		„ 1 „
„ cholesterol ...	...	„ 1 „

(h) *Bacteriological examination*.—Cultures were attempted in connection with 32 samples with success in 9 cases. One has already been referred to under para. (c) above ; of the remaining eight, staphylococci were found in 3 cases, streptococci in 2, *B. coli communis*, *B. para. asiaticus* and *B. Eberthella talavensis* in one case respectively.

(2) *Sputum*:—A total of 469 samples were microscopically examined for Koch's tubercle bacillus with or without the help of concentration methods. The results proved positive in 85 cases viz: 18.1%. Cultures were made from 14 other samples for the preparation of composite vaccines. The micro-organisms isolated were:—

Streptococci and <i>M. catarrhalis</i>	...	in	4 cases
Staphylococci and streptococci	...	„	3 „
Staphylococci	...	„	3 „
Streptococci	...	„	2 „
Staphylococci and <i>M. catarrhalis</i>	...	„	1 „
Staphylo, Strepto and <i>M. catarrhalis</i>	...	„	1 „

(3) *Throat and nasal swabs*:—The number of swabs received was 544. As usual, the examination was asked for in view of diagnosis or to find out diphtheria germ-carriers among convalescent patients and contacts. The Klebs-Loeffler organism was found on 122 swabs—26 on direct examination and 96 on culture. Vincent's fusiform bacillus was detected in 8 cases and Hoffmann's in one case. The other findings were as follows:—

Staphylococci	...	in	14 cases
Streptococci	...	„	11 „
Spirilla	...	„	3 „

whilst *M. catarrhalis*, *Leptothrix*, *Pneumococci* and *Oidium albicans* were found in one case respectively.

(4) *Pus*:—Number of specimens 157. Some in the form of smears of urethral or vaginal discharges, eye, tonsil, vulvar and uterine swabs. Gonococci were found on 21 occasions. In others the ordinary pyogenic organisms were present. Cultures were made in 65 cases with the following results:—

Staphylococci	...	from	27 samples
Streptococci	...	„	7 „
Gonococci, staphylococci and diphtheroid <i>B.</i>	...	„	3 „
Staphylococci and streptococci	...	„	2 „
Gonococci and streptococci	...	„	2 „
Gonococci and staphylococci	...	„	1 „
Streptococci and <i>B. coli communior</i>	...	„	1 „
Staphylococci and <i>B. coli communior</i>	...	„	1 „
Staphylococci and <i>B. diffluent</i>	...	„	1 „
Staphylococci and <i>B. acne</i>	...	„	1 „
Diphtheroid bacilli	...	„	1 „
Negative results	...	„	18 „

(5) *Cerebrospinal Fluid*:—130 samples were received as compared with 97 in 1930. Six samples were microscopically examined one of which showed pneumococci, another streptococci associated with a Gram negative bacillus; with regard to the remaining samples

A leucocyte count was made	...	with	32
A differential leucocyte count	...	„	14
A Wassermann's reaction (9 positive)	...	„	41
The globulin test	...	„	21
The albumen value	...	„	5
The glucose value	...	„	1

finally ten samples were cultured: two yielded pneumococci, one meningococci and one streptococci. The other six gave no bacterial growth.

(6) *Pleuritic Fluid*:—Ten specimens came for examination. Simple microscopical examination was made with four of them, a pneumococcus was found in one sample and a streptococcus in another: the two others showed no microorganisms. Three samples were cultured; one yielded streptococci and two proved sterile.

A differential leucocyte count was made with one sample, albumen was estimated in another and finally a Wassermann's complement fixation reaction with negative result was attempted with one sample.

(7) *Tappings*:—

- From knee joint three samples; all of which gave negative results as to the presence of microorganisms.
- From synovial cavities: one sample, sterile.
- From serosity (not specified) two samples; dermococci were isolated on culture from one and the other proved sterile.

(8) *Spleen and liver smears* from one cat and two rats were examined for plague bacilli with negative result.

Faeces :—The total number of specimens examined was 1,324. Amongst them 103 showed *Ent. histolytica*, 86 *Ent. coli*, two *Endolimax nana* and one an unclassified amoeba. The following intestinal parasites or their eggs were also found in the course of these examinations :—

<i>Trichiuris trichiura</i>	...	...	in 433 specimens
Hookworm	...	...	„ 305 „
<i>Blastocystis</i>	...	...	„ 211 „
<i>Ascaris lumbricoides</i>	...	...	„ 199 „
<i>Strongyloides</i>	...	...	„ 66 „
<i>Giardia intestinalis</i>	...	...	„ 48 „
<i>Trichomonas</i>	..	...	„ 34 „
<i>Clonorchis sinensis</i>	...	...	„ 17 „
<i>Tetramitus mesnili</i>	...	...	„ 6 „
<i>Oxyuris incognita</i>	...	...	„ 4 „
<i>Cercomanas</i>	...	...	„ 2 „
<i>Spirilla</i>	...	...	„ 2 „
<i>Oxyuris vermicularis</i>	...	...	„ 1 „
<i>Schistosoma hæmotobium</i>	...	...	„ 1 „

Culture was resorted to in 21 of the specimens : *B. acidi lactici*, *B. faecalis alkaligenes*, *B. coli communis*, *B. kandiensis* and *B. vesiculosis* were recovered from one specimen respectively.

One specimen was tested for biliverdin with positive results.

(10) *Urine* :—894 specimens were received during the year under review as compared with 742 in the preceding year. Routine chemical procedures, qualitative and quantitative, were carried on with 310 of the samples. The centrifuged sediments of 437 samples were microscopically examined and showed as under :—

Hyaline casts	...	...	in 80 cases
Granular casts	...	...	„ 45 „
Leucocytic casts	...	...	„ 19 „
Cellular casts	...	...	„ 6 „
Waxy casts	...	...	„ 2 „
Red blood casts	...	...	„ 1 „
Eggs of <i>Schistosoma haematobium</i>	...	...	„ 53 „
Spermatozoa	...	...	„ 6 „
Microfilariae	...	...	„ 2 „
<i>Trichomonas</i>	...	...	„ 1 „
Streptococci	...	...	„ 2 „
Gonococci	...	...	„ 1 „

18 specimens were tested for acetone, three for di-acetic acid and two for biliary pigments. Quantitative acetone and quantitative amino-acids estimation was made each on one sample. The Wassermann's complement fixation reaction with negative results was performed on one sample.

The centrifuged deposits of 121 samples, drawn with aseptic precautions, were cultured, with the following findings :

<i>B. coli communis</i>	...	...	isolated from 17 samples
<i>B. coli communior</i>	...	...	„ „ 9 „
<i>B. cloacae</i>	...	...	„ „ 6 „
Staphylococci	...	...	„ „ 6 „
<i>B. aertrycke</i>	...	...	„ „ 5 „
<i>B. acidi lactici</i>	...	...	„ „ 4 „
<i>B. asiaticus castellani</i>	..	...	„ „ 3 „
<i>B. faecalis alkaligenes</i>	...	...	„ „ 2 „
<i>B. lactis aerogenes</i>	...	...	„ „ 2 „

while *B. capsulatus*, *B. para asiaticus*, (Castellani), *B. proteus*, *para-coagulans*, *B. pseudo-morgani*, *B. capsulatus* and *B. meta alkaligenes* (mixed), streptococci, staphylococci and *B. coli communis* (mixed) staphylococci and *B. escherichia sp?* (mixed), staphylococci and gonococci (mixed), staphylococci and *B. lactis aerogenes* (mixed), streptococci and *B. coli communior* (mixed), were recovered from one specimen each respectively. In 53 cases the specimens proved sterile.

(11) *Intestinal Worms* :—These were received for identification on two occasions ; they turned out to be specimens of *Ascaris lumbricoides* (female) and *Davainea madagascariensis*.

(12) *Urinary Calculus* received on two occasions ; they consisted of Calcium oxalate.

(13) *Experiments on small animals* :—This was resorted to on twelve different occasions.

(14) *Organs, Tissues and Pathological formations* :—42 specimens were cut and examined. True neoplastic growths were met with in 13 cases. They consisted of :—

Fibroadeno-carcinoma	...	...	...	in 2 cases
Round celled sarcoma	...	...	...	„ 2 „
Squamous epithelioma	..	...	...	„ 2 „
Epithelioma...	...	...	...	„ 1 „
Adenoma	...	...	...	„ 1 „
Lipo-fibroma	...	...	...	„ 1 „
Fibro-sarcoma	...	...	...	„ 1 „
Villous papilloma	...	...	...	„ 1 „
Chorionepithelioma	...	...	...	„ 1 „
Lymphoid polypus	...	...	...	„ 1 „

In three specimens ova of *Schistosoma haematobium* were found.

II.—VACCINES

Prophylactic Vaccines :—Antityphoid prophylactic vaccine and Calmette's B.C.G. vaccine against tuberculosis were prepared as routine work throughout the year and supplied free to applicants.

681 applications for anti-typhoid vaccine were satisfied during the year.

1863 infants were vaccinated against tuberculosis with B.C.G. during the year under report and 1071 doses of vaccine were issued to stock breeders at the request of the Agricultural Department for inoculation to young bovines.

B.—*Therapeutic Vaccines*.—88 auto-vaccines were prepared during the period under review with microorganisms isolated in the laboratory from pus, urine, sputum, urethral, nasal and cervical secretions as follows :—

From pus with staphylococci	...	...	23
„ streptococci	...	...	4
„ staphylococci and streptococci	...	...	1
„ staphylococci and <i>B. acne</i>	...	...	1
„ streptococci and <i>B. coli communior</i>	...	...	1
From urine with <i>B. coli communis</i>	...	...	5
„ <i>B. coli communior</i>	...	...	3
„ <i>B. proteus</i>	...	...	1
„ <i>B. cloacae</i>	...	...	1
„ <i>B. faecalis alkaligenes</i>	...	...	1
„ <i>B. capsulatus</i>	...	...	1
„ <i>B. asiaticus</i>	...	...	1
„ <i>B. aertrycke</i>	...	...	1
„ gonococci and staphylococci	...	...	1
From sputum with streptococci and <i>M. catarrhalis</i>	...	...	4
„ streptococci and staphylococci	...	...	3
„ streptococci	...	...	2
„ strepto, staphylo and <i>M. catarrhalis</i>	...	...	1
From urethral secretion with gono-staphylo-and dipht-	...	...	...
heroid bacilli	...	...	3
„ gono—, and strepto—	...	...	1
„ gono—, and staphylo—	...	...	1
„ staphylococci	...	...	1
„ diphteroid bacilli	...	...	1
From nasal secretion with staphylococci	...	...	1
From cervical secretion with gono-and streptococci	...	...	1
From serosity (not specified) with dermococci	...	...	1

Mixed vaccines for oral administration from organisms isolated from 20 specimens of urine were also prepared as follows :—

<i>B. coli communis</i>	...	...	8
<i>B. aertrycke</i>	...	...	3
<i>B. asiaticus castellani</i>	...	...	1
<i>B. cloacae</i>	...	...	1
<i>B. faecalis alkaligenes</i>	...	...	1
<i>B. para-asiaticus</i>	...	...	1
<i>B. para-coagulans</i>	...	...	1
<i>B. pseudo-morgani</i>	...	...	1
<i>B. coli communior</i>	...	...	1
<i>B. coli communior</i> and streptococci...	...	...	1
<i>B. coli communior</i> and staphylococci	...	...	1

Filtered vaccines (Besredka's antiviruses) were prepared on two occasions from staphylococci isolated from two specimens of pus.

A total quantity of 14 litres each of stock streptococcus and stock staphylococcus filtered vaccines was prepared during the year and supplied to hospitals and the public.

Typhoid vaccine for protein shock therapy was prepared once during the year under report.

III.—PUBLIC HEALTH

Under this head a total of 990 samples of foods and drugs were analysed during the period covered by this report.

The figures for the last five years show as follows :—

1927	...	...	...	867 samples
1928	...	...	...	915 "
1929	...	...	...	729 "
1930	...	...	...	421 "
1931	...	...	...	990 "

The following substances were analysed :

Milk	...	...	...	626 samples.
Quinine sulphate	...	...	...	3 "
Wine	...	...	...	2 "
Rum	...	...	...	1 "
Beer	...	...	...	1 "
Butter	...	...	...	1 "
Cane sugar	...	...	...	1 "
Cat's organs for arsenic	...	...	...	1 "
Salt for tanning	...	...	...	1 "
Salt from chlorination plant	...	...	...	1 "
Sand	...	...	...	1 "
Sausage	...	...	...	1 "
Sugar cane	...	...	...	1 "
Wax	...	...	...	1 "

In addition to the above 13 samples of water were bacteriologically examined and one chemically analysed ; twelve of these were from the filter plant at La Marie and two from private supplies.

The routine control of the chlorination plant at Pailles was continued throughout the year ; 167 samples of Port-Louis water (Pailles filtered, Maupin and Monneron réservoirs) were examined for the chlorine index of the Pailles filtered water and for residual chlorine in the case of the samples from the Maupin and Monneron réservoirs.

The same number of samples of Port Louis Water was bacteriologically examined for the presence of lactose fermenters in 50 cubic centimetres.

IV.—MEDICO-LEGAL

The articles of evidence, organs, substances etc., referred for examination by the Judicial Authorities at the request of the Police and Revenue Departments amounted to 396.

The following are the figures for the last five years .—

1927	...	...	...	283 articles
1928	...	...	...	330 "
1929	...	...	...	307 "
1930	...	...	...	314 "
1931	...	...	...	396 "

The examinations were called for in connection with the following offences :—

Illicit distillation	...	...	...	181 articles in 79 cases.
Rape	...	...	...	101 " 13 "
Murder	...	...	...	40 " 8 "
Possession of Opium	...	...	...	17 " 2 "
Poisoning	...	...	...	12 " 2 "
Sodomy	...	...	...	12 " 2 "
Possession of Gandia	...	...	...	8 " 8 "
Wounds and blows...	...	...	...	7 " 1 "
Manslaughter	...	...	...	6 " 1 "
Attempt at rape	...	...	...	6 " 1 "
Alleged infanticide...	...	...	...	3 " 1 "
Urine and blood for alcohol	...	...	...	2 " 1 "
Larceny	...	...	...	1 " 1 "

V.—RESEARCH

At the request of the Government Veterinary Surgeon of the Department of Agriculture, research work on cows' abortion was entrusted to Mr. L. Webb, Acting Scientific Assistant.

Thirteen foetuses were received and examined bacteriologically ; no *Brucella abortus* (Bang) or *Vibrio foetus* could be recovered from any of them but in each case a streptococcus of the viridans type was isolated.

Abortion was experimentally produced in two gravid rabbits by (a) subcutaneous and (b) vaginal inoculations of 24 hours' old culture of the streptococcus ; the same micro-organism was recovered in all the foetuses expelled.

An antiviral prepared according to Besredka's method with the streptococcus and made into an ointment with lanoline and vaseline is being supplied to the Government Dairy for local application within the vagina of gravid cows.

Mr. L. Webb was helped in the above work by Messrs. Furlong and Cantin.

At the request of the Superintendent Inland Revenue, research work was undertaken in the earlier months of the year in the Chemical Branch on possible means of detecting illicit rum. A confidential report on this matter signed by Dr. Barbeau and Mr. Avicé du Buisson the Laboratory Assistant was submitted some time after I took charge of the Laboratory.

Towards the end of the year, Mr. Masson who since the departure of Mr. Maya in July 1930 has been acting as Assistant Superintendent was called upon to investigate into an outbreak of dysentery with a view to ascertain whether the disease was not caused by a bacillus of the dysentery group where the *Entamoeba histolytica* was not detected. He succeeded in isolating His sand Russel's Y bacillus and *B. dysenteriae* Shiga in certain cases. He then with the help of Mr. Némorin began the preparation of a vaccine for oral administration with B. Shiga and His sand Russel's Y bacillus isolated from these cases. Subsequently he prepared the vaccine with B. Shiga and a strain of *B. coli* isolated from a case in which these two organisms were associated. This vaccine has been tried by a number of medical practitioners who have reported satisfactory results on the whole. The applications for this vaccine have for some time past been increasing and the vaccine is now kept in stock.

VI.—ADMINISTRATION

The fees collected at the laboratory for work done for private parties amounted to Rs. 4,229.26 c. in addition to this, the sum of Rs. 1,385.04 c. was paid directly to the Treasury for laboratory dues. The total receipt thus amounted to Rs. 5,614.30 c. as compared with Rs. 6,895.94 c. for 1930.

On the first of April Dr. L. G. Barbeau left on three month's leave at the termination of which he retired from the service.

Mr. L. Dorval Acting Junior Microscopist was detailed for duty with the Director of the Malaria Service on the first of September.

In closing this report I have much pleasure in thanking all the members of the staff of the laboratory for their devoted assistance.

August 6th 1932.

F. J. R. MOMPLÉ,
Acting Supt. Bacteriological Laboratory.

APPENDIX II

HOOKWORM BRANCH—ANNUAL REPORT OF WORK DONE DURING THE YEAR 1931

1.—ORGANIZATION AND STAFF

On April 1st the Hookworm Campaign and the Special Malaria Service were amalgamated into one Branch.

Systematic stool examination of every person in the field having been found unnecessary (all the more that a large percentage of containers are returned empty) the number of microscopists was reduced by one.

2.—EXTENT OF OPERATIONS

Two districts: Moka and Plaines Wilhems have been attended to in 1931.

At the request of the Managers, treatment was also given in certain schools and on several sugar estates in Savane, Grand Port, Flacq and Black River.

Much time and attention have been devoted to educative work and propaganda with gratifying results.

The work done during the year may be summarized as follows:—

Number of examinations made	...	...	12,335
Number of treatments given	...	...	38,925

The demand for treatment at the Central Office is steadily increasing as shown by the following figures:

Year	Number of treatments		
1928	798
1929	1,931
1930	3,056
1931	5,600

3.—MICROSCOPIC EXAMINATION

The method employed is the Willis salt floatation. The D. C. F. method has also been employed as a means of control.

The corrected percentage of Hookworm infection found amongst the various races of the Colony is:

Indian	...	83.9	Chinese	...	47.7
Mixed	...	59.1	White	...	26.5

Other helminths incidentally found in the course of examination are:

Ascaris lumbricoides,
Trichocephalus dispar,
Strongyloides,
Oxyuris vermicularis,
Tænia solium and saginata.

Ascaris infection is very heavy indeed and most of the patients examined also harbour Trichocephalus.

4.—TREATMENT

No change to be recorded.

The accompanying statistical table sums up the results of examination and treatment during the year.

5.—REMARKS

The accommodation at the Central Office having become inadequate through the amalgamation of the Hookworm and Malaria services and the increasing number of patients, the Board of Commissioners for Curepipe who take a keen interest in matters sanitary and have already done a great deal to improve the health conditions of the town, have kindly offered to erect a building. This offer has been accepted by Government and the new office will be ready about August 1932.

The financial Commission who visited the Colony this year have agreed that the fight against Hookworm disease must be intensified and have recommended the appointment of two other Hookworm and Malaria officers. It is hoped therefore that in the near future the campaign will reach a long needed development.

Curepipe,
6th June, 1932.

(S.) A. C. D'ARIFAT,
Medical Officer in charge, Hookworm Branch.

APPENDIX III

— — —
SPECIAL MALARIA SERVICE
ANNUAL REPORT FOR THE YEAR 1931
— — —

ADMINISTRATION AND STAFF

On the 1st of April Dr G. Barbeau Director of the Bacteriological Laboratory, who had also administered this Branch of the Medical and Health Department since its creation, retired from active service.

Malaria and Hookworm were then united under one head and the headquarters of the Special Service transferred from Réduit to the Hookworm Office, Curepipe.

A special microscopist was appointed on the 1st of August.

The staff now comprises :

The Director,
1 Assistant Entomologist,
1 Secretary,
1 Microscopist,
2 Field Controllers,
13 Moustiquiers,
124 Cantonniers.
and a varying number of labourers.

BRIEF HISTORY

The Special Malaria Service was created in 1927 (Governor's Minute No. 6 of February 1927) when several cases of locally contracted malaria occurred in Curepipe. The Service was and still is independent from the general anti-Malaria organization of the Department, but its activities, originally limited to Curepipe, have been gradually extended to the whole zone comprised between the 600 and 1,800 ft contour lines.

Apart from other anti-malaria works of minor importance, the service is responsible for the successful drainage of the greater part of the South-Eastern quadrant of Curepipe. This entailed canalization of numerous small marshes and streams, also regrading of River du Mesnil in the upper part of its course. The results have been highly beneficial.

Another achievement which stands to the credit of the past administration is the survey of anopheline winter breeding places which was carried out during five consecutive winters in the area described above.

It has been clearly established that :

(i) During the winter *A. Costalis*, *Funestus* and *Maculipalpis* breed at the highest inhabited altitudes.

(ii) The number of winter refuges is far in excess of what was originally thought and these are found well above the 1,200 foot contour line.

ANTI-MALARIA WORKS

(i) *Maintenance*.—This head covers two distinct items :

(a) actual maintenance of the integrity of the works.

(b) anti-larval measures in so far as removal of aquatic vegetation is concerned.

Both have been satisfactorily attended to.

(ii) *Repair and improvement*.—19,220 feet of existing works required repair amounting almost to reconstruction. This is due to the heavy floods which occurred during the cyclone in March.

Special attention has been paid to River St. Martin in Vacoas. The course of the river was straightened and regraded on a length of 1,130 feet and large depressions on its banks were filled in.

In Phoenix, the lower part of Clairfond drain has been widened, deepened and rough-side-walled on a length of 420 ft.

(iii) *New Works*.—(a) A total of 3,301 feet of new drains (on the average 3 ft. wide by 4 ft. deep) has been dug in different localities in order to get rid of stagnant or seepage water.

(b) At Réduit, a large collection of stagnant water, by the side of the main drive, has been successfully drained.

(c) In River Cascade two extensive breeding places due to innumerable rock pools have been attended to.

In one case the only solution to the problem was the construction of a large slanting concrete platform and the nuisance has been radically abolished.

In the other case it has been possible to cut a number of small channels in order to drain the pools. This work will be completed in 1932.

(d) In River Moka a reputed winter refuge has been dealt with by straightening the banks of the river and allowing a free flow of water.

INVESTIGATORY

The survey of anopheline breeding places carried out from 1927 to 1931 inclusive has revealed that, in Plaines Wilhems, the number of winter refuges is alarming whilst the summer breeding places are innumerable. Further, the distribution of these findings show that if the vectors of malaria are not yet fully acclimatized in Curepipe they have well established themselves in the lower parts of the district.

As an illustration the following facts may be cited :

(i) *Lower Plaines Wilhems* (Quatre Bornes).—At La Source, a small village on the outskirts of Quatre Bornes, a parasite and spleen index made in September 1931 gave the following results :

Parasites—101 persons examined.

Adults 28	{ Positive	...	...	9 or 32%
	{ Negative	...	...	19 or 68%
Children 73	{ Positive	...	...	58 or 79·4%
	{ Negative	...	...	15 or 20·6%
Type of parasite	{ P. Vivax	...	...	23 or 32·4%
	{ P. Falciparum	...	...	43 or 60·6%
	{ P. Malariae	...	...	5 or 7%

Double and mixed infection was also found in 7 cases.

Spleen—122 persons examined. 36% were found with enlarged spleens.

(ii) *Upper Plaines Wilhems* (Curepipe).—The three vectors of Malaria having been encountered many a time in Curepipe during both the winter and the summer, it was decided to try and find out the cases, if any, of locally contracted malaria.

The difficulty of such an undertaking lies in the fact that, apart from a large floating population, members of the labouring classes residing in any given locality do not regard a short stay elsewhere as a breach of residence and will, often in all good faith, maintain that they have never left the locality.

However, during April, May and June every patient who passed through the dispensary complaining of fever, had his blood examined for malaria parasites and as careful an inquiry as possible was made into his life history.

Thirty two cases were so investigated. Having eliminated those :

(a) negative to the microscope,

(b) who admitted having slept out of the town fairly recently,

we were left with 15 cases (3 men, 5 women, 7 children) who, to the best of our knowledge, had not left Curepipe during the last two years.

Plas. Vivax was found in 12 cases and Plas. Falciparum in 3. Gametocytes were present in 2 cases whilst all the others only showed ring forms of the parasites.

Topographically, these 15 cases formed 3 groups :

(a) Forest Side (3 cases).

(b) Eau Coulée (8 cases).

(c) Camp Caval (4 cases).

and in each of the above-named localities A. Costalis larvae had occasionally been found.

Further evidence of probable local infection was afforded by the fact that in three families of high social standing who reside in the immediate vicinity of the localities under reference, very young children who had never left Curepipe (except one, who spent two months at the beach in 1930) suffered for the first time from malaria microscopically diagnosed.

The facts related above show that Plaines Wilhems, the residential and most thickly populated district, is now seriously threatened by malaria and the inhabitants may at any moment be faced with a severe outbreak of the disease. A full report has been submitted on this question and in the writer's opinion every effort should be made to protect what still is the sanatorium of the Island.

Curepipe,
6th June, 1932.

(S) A. C. D'ARIFAT,
Director Malaria Service & O/C Hookworm Branch.

APPENDIX IV

DEPT. OF THE MEDICAL OFFICER OF HEALTH, PORT LOUIS

ANNUAL REPORT FOR THE YEAR 1931

Dr. E. R. W. Gilmore was granted 3 months' leave and left Mauritius on the 7th November 1931, his 3 years' contract terminating on the 11th February 1932.

I was absent on leave for 4 months and 4 days, and on my return to the Colony on the 1st December, took over the duties of Medical Officer of Health, Port Louis, and Port Health Officer.

Administration

The Sanitary Staff was composed of one Chief Sanitary Inspector, 4 Inspectors and 3 Guards. On the 30th of December, Mr. Léonce, the Chief Sanitary Inspector, retired on pension.

Public Health

No epidemics were recorded during the year, but the vital statistics, with a gradually rising death-rate and falling birth-rate, show the general economic condition prevailing.

VITAL STATISTICS

The area of Port Louis is 16 square miles and its estimated population was 54,877 on the 1st January 1931 and 54,290 on the 31st December 1931.

BIRTHS

Total : 1,802 ; birth-rate per 1,000 population : 32.8 ; still births 185.

DEATHS

Intra-urban 1,755 ; Extra-urban 362 ; total 2,117 ; death-rate per 1,000 population 38.5

INFANTILE MORTALITY

Under one year : 348.

Between the age of one and five : 244.

Infantile mortality rate 193 per thousand.

Year	1925	1926	1927	1928	1929	1930	1931
Crude death rate . .	26.1	28	27.7	32.1	35	43.3	38.5
Birth rate . . .	42.0	39.5	36	38.4	35.6	35.5	32.8

Communicable Diseases

INSECT—BORNE DISEASES

MALARIA

The number of reported deaths from Malaria and Malarial Cachexia was 323 as against 285 in 1930.

The total number of patients suffering from Malaria admitted to the Civil Hospital was 1,441 : an increase of 409 over the figure for the previous year.

The case mortality was 3.46 % against 1.64 % in 1930.

PLAGUE

No sign of plague, whether human or murine, has appeared since 1927.

INFECTIOUS DISEASES

The number of cases of notifiable contagious or infectious diseases which occurred during the year 1931 is as follows :—

Disease	Number of cases notified
Diphtheria	5
Enteric fever	19
Erysipelas	33
Puerperal fever	7
Puerperal sepsis	11
Tuberculosis	156

HYGIENE AND SANITATION

The campaign against rats was steadily pursued throughout the year. 86 dwellings were made rat-proof and 39 new constructions were built in accordance with the ratproofing specifications which are issued to all applicants for a building permit.

In June 1931 the field of action of ratcatching was restricted to the docks and the town area around these. The object aimed at is no longer rat destruction but sanitary surveillance over the rodent population, each street of the locality being trapped once a fortnight at least. All the rats caught or found dead are examined microscopically.

Rats Caught. Male 7,582 ; female 13,350. Total 20,932.

Gravid female rats caught : 497 ; number of young 2,095.

Fecundity Index 4.21.

Rats chloroformed for fleas 1,723 ; number of fleas collected 3,106.

Flea rate per rat 1.80,

Cats found dead 12.

Claytonisation of the grain stores and warehouses was regularly performed.

MALARIA

In Port Louis the anti-malarial campaign consists in keeping the various streams free from algae and preventing whenever possible the stagnation of water and the formation of pools likely to become breeding places.

Unfortunately it has not been possible yet to repair the circumvallatory catch-water drain and those portions of the streams which lie between the hills on one side and Victoria Avenue and Junction Road on the other. They are still in a dilapidated condition and a favourite breeding ground throughout the year for anophelines, chiefly *A. costalis* and *A. maculipalpis* : all breeding places detected are immediately oiled by the moustiquier with a mixture of paraffin, castor oil and crude oil.

Here one may point out that oiling has not proved a success in Port Louis. The rapidly growing algae near the banks and in the pools of water along the course of the streams prevent the formation of an effective film and even the use of an oil-drip did not materially affect the number of larvæ detected in Pouce and La Paix Streams.

The number of breeding places treated during the year is as follows :—

ANOPHELINI				CULICINI		
<i>A. costalis</i>	<i>A. mauritanus</i>	<i>A. maculipalpis</i>	<i>A. funestus</i>	<i>Stegomyia</i>	<i>Culex</i>	<i>Lutzia tigris</i>
1197	7	26	...	2	727	3

Within the Urban area, the stream beds are canalised and paved, but a considerable portion was damaged by the floods of December 1929. The most that could be done in the way of repairs with the available funds was to clear the streams of boulders and débris. This work has unfortunately to be done repeatedly owing to the state of the circumvallatory drain and upper parts of the streams, as any shower of moderate severity converts the latter into torrents which carry more boulders and silt into the stream beds below. With the exception of the streams, anopheline breeding places are scarce within the town limits, the larvæ most frequently met with being those of *Stegomyia* and *Culex*.

Quinisation. From the 17th January to the 13th June, 117,500 grains of Quinine were entrusted to the Municipal Corporation for distribution at 14 Centres in the town. These were in the charge of philanthropic members of the community whose kind help in this work is highly appreciated.

GENERAL MEASURES OF SANITATION

NIGHT SOIL AND CONSERVANCY SYSTEM.

Sewerage work was continued during the year ; 121 more premises were connected with the sewers, and five extensions consisting of W. Cs., bathrooms and gulleys, were made to buildings already connected to the sewerage system.

A septic tank was installed for the use of the personnel of the Curepipe Electric Station at Plaine Lauzun.

There are still 1,955 pail latrines in the urban area. The night soil from these are removed by motor vehicles supplied by the contractor and disposed of at the Cassis and the Paul & Virginie Tipping Chambers.

In April the number of night soil men and overseers was reduced without affecting the efficiency of the service, this reduction meant a saving of Rs. 6,210 a year.

In spite of the intermittent system of water supply which still obtains, a gradual increase in the number of water closets has been made in Port Louis. The unfortunate result is that no water is available in the middle of the day for the flushing of the water closets. It is hoped, however, that the repairs now in hand at the intake of the Municipal water supply on the Grand River North West will put an end to this most undesirable state of affairs.

COLLECTION AND DISPOSAL OF REFUSE

This work performed by the Sanitary Department was satisfactory. The refuse collected daily is used for the filling in of quarries at Roche Bois and Plaine Lauzun.

In April 1931, a scheme of reorganisation of the Scavenging Branch was approved by the Director.

Port Louis was divided into 7 sections instead of 17, the number of Overseers was reduced from 19 to 8, female labour was dispensed with and the men increased from 134 to 143.

The reorganisation which had already been tried in one section of the town in April was made general on the 6th of May and proved quite satisfactory. It meant a saving further in expenditure of Rs. 20,650 a year.

WATER SUPPLY

There are four sources of water supply in Port Louis i.e.

1. *Grand River North West*.—At a dam called “La Digue” where the water is conveyed by two water mains known as the Municipal (18 inch. pipe) and Rectification (19 inch. pipe) canals to the Pailles filter beds. The filtered water is then chlorinated by means of a Paterson’s chloronome and stored in the Monneron and Signal Mountain reservoirs. This chlorinated water supply is limited to the intra urban area.

2. *Grand River North West*.—At a spot nearer to the sea than “La Digue” where Dayot Canal starts. This supplies water to the Cassis District and ends at Redoute Street. The remaining portion up to Pouce Street is dry.

3. *Calebasses River*.—The water impounded by a dam near Bois Marchand Cemetery is brought to the Abattoir, Ste. Croix, Terre Rouge and part of Roche Bois.

4. *Latanniers Stream*.—This water is supplied to Vallée des Prêtres by a pipe which is fed from a dam close to the river source.

5. *Mare-aux-Vacoas*.—Previous to 1931, a small supply (4 inch-diameter piping) was provided for Government establishments and the Military, and limited to special consumers such as the Ice Works factory, Soda water factories, National Hotel, Flore Mauricienne, Glaneur, Town Hall and one or two firms for drinking purposes only. It was also supplied to shipping.

After the floods of December 1929, a line of pipes was laid temporarily from Petite Rivière to Port Louis bringing approximately one million gallons of water to the town.

This temporary line was later regraded with pipes of uniform section (8 inch diameter) and extended into Port Louis, while a reservoir at Petite Rivière was constructed. The old 4 inch line from Petite Rivière to Port Louis was then removed and used as distributing main in the commercial and residential parts of the town.

The new supply renders available a distribution of approximately one million gallons per 24 hours.

With the exception of Mare aux Vacoas water the Port Louis water supply is intermittent. As stated above it is hoped that thanks to the reconstruction of the dykes and repairs to the Grand River North West mains, Port Louis will soon enjoy the benefit of a constant water supply.

MARKETS

The three markets of the town are under the direct supervision of the Municipality. They have now fallen into a state of disrepair and are no longer fly-proof.

SLAUGHTER HOUSES

The slaughter house at Roche Bois is administered by the Municipality, and all carcasses are examined by a Veterinary Surgeon. It has been considerably improved and is now quite satisfactory.

CEMETERIES

Two of the three cemeteries belong to the Municipal Corporation ; a third, the Chinese Cemetery, is under the control of the Sanitary Department.

In part of the Western Cemetery, the subsoil water is high, the level of the ground itself being about 6 feet above sea level. Complaints have been made about the burial of dead bodies in water-logged graves ; the Mayor has however undertaken to palliate this state of affairs by constructing a system of drains around the cemetery.

MILK SUPPLY

The control of milk supply was conducted by Sanitary Inspectors Louis and Tanguy working conjointly.

The following is a summary of the action taken in this connection :—

No. of milk sellers whose milk was tested.	No. of samples taken.	No. of samples found genuine.	No. of samples found to be sophisticated.	No. of warnings given.	Number of contraventions established.	Number of convictions.	Fines in Rupees.	Imprisonment.	Length of me.
1599	238	156	82	...	82	82	3497	6	8 months

Port Louis,
15th September, 1933.

(S.) L. M. J. R. PILOT,
M. B., B. S. (London) D. T. M. & H.
Ag. Medical Officer of Health Port Louis.

APPENDIX V.

REPORT ON THE MENTAL HOSPITAL FOR THE YEAR 1931.

1.—Total insane population of the Colony

The total number of certified insane persons in the Colony on 31.12.31 was 834, compared with 833 for 1930.

2. The following table shows the distribution of the 834 certified insane persons in the Colony on 31.12.31 :—

	General			Indian			Chinese			Total
	M.	F.	T.	M.	F.	T.	M.	F.	T.	
At Mental Hospital ...	185	175	360	167	104	271	15	3	18	649
On probation leave ...	41	41	82	52	35	87	2	...	2	171
On leave under G. N. No. 239/24...	6	4	10	3	1	4	...	...	...	14
Total ...	232	220	452	222	140	362	17	3	20	834

3. The percentage sex distribution of the 834 certified insane persons was males 56.47 and females 43.52, compared with males 50.97 and females 49.02 for the estimated population of the Island on 31.12.31.

4. The following table gives the insane rates per 10,000 of the population of the Island, calculated on the number of certified insane persons in the Colony on 31.12.31 :—

	M.	F.	T.
General Population ...	42.3	35.8	38.7
Indian Population ..	16.1	10.9	13.6
Chinese Population ...	27.1	12.0	22.8
Total Population...	23.6	18.9	21.3

The above table shows that insanity is more prevalent among males than females. The total insane rate for the "General" population is about three times that for Indians and is approximately the British rate of 37 per 10,000.

5. The following table gives the total insane rate per 10,000 of the population of the Island for the years 1924 to 1931 ; also the total number of certified insane persons and the estimated population of the Island on December 31st of each of these years :—

Years	1924	1925	1926	1927	1928	1929	1930	1931
Insane rate per 10,000 of the population ...	17.6	17.7	18.0	18.1	18.4	18.7	20.5	21.3
Total certified insane on December, 31st...	636	700	719	729	748	759	833	834
Population of Colony on December, 31st...	387,743	393,708	398,236	401,693	404,802	405,519	404,458	391,044

The above table shows that the insane rate for 1931 is higher than for 1930, although there is practically no change in the total number of certified insane for each of those years. It is probable, however, that the rates for 1930 and 1931 are about the same, as the estimated population of the Island on 31.12.30 is undoubtedly too high when compared with the 1931 figures which are based on the recent census.

Nevertheless, one notes a sharp rise in the incidence of insanity within recent years due, in great measure, to such factors as increased worry, privation, unemployment, greater prevalence of bodily sickness, all of which are attributable to the low financial state of the Colony.

An interesting fact in this connection is that the village idiot is appearing in greater numbers at the Mental Hospital. Whereas, formerly, he could always be given some food and odd bits of clothing and kept in his village, to-day, when times are hard, and the safety of the family ship is threatened, all useless hands are jettisoned.

Hospital Population.

6. There were 653 persons in hospital (males 369, females 284) on 31.12.31. Of these, 2 males and 2 females were under interim detention pending a decision as to their mental state, so that the total number of certified insane persons in hospital on the above date was 649 (males 367, females 282) compared with 643 (males 364, females 279) on 31.12.30. Included in the 649 certified patients were 13 male and 20 female paying patients.

The daily average number resident was 680 (males 386, females 294) compared with 654 for 1930, 619 for 1929, 612 for 1928 and 1927 and 582 for 1926.

The maximum daily number resident during the year was 706 (males 401, females 305), compared with 681 (males 385, females 296) in 1930.

7.—Criminal Mental Patients

	M	F	T
In Hospital on 31.12.30 ...	17	...	17
Admitted during 1931 ...	1	...	1
Readmitted from probation leave ...	...	...	...
Discharged or dealt with under Article 60 Ord. 23 of 1906 ...	5	...	...
Died during 1931 ...	...	...	...
Remaining on 31.12.31 ...	13	...	13

E....C...., aged 24, the criminal mental patient admitted during the year, was an epileptic feeble-minded charged as a rogue and vagabond.

8. The following table shows the duration in hospital to 31.12.31 of the 649 certified resident patients :—

	M	F	T
1 year or less ...	54	39	93
Between 1 and 2 years ...	25	37	62
„ 2 and 3 „ ...	35	17	52
„ 3 and 4 „ ...	29	17	46
„ 4 and 5 „ ...	13	13	26
„ 5 and 6 „ ...	17	17	34
„ 6 and 7 „ ...	24	9	33
„ 7 and 8 „ ...	21	13	34
„ 8 and 9 „ ...	18	6	24
„ 9 and 10 „ ...	12	5	17
„ 10 and 15 „ ...	32	41	73
„ 15 and 20 „ ...	30	29	59
„ 20 and 25 „ ...	23	13	36
„ 25 and 30 „ ...	19	14	33
Over 30 years ...	15	12	27
Total ...	367	282	649

It will be seen from the above table that more than half of the total number of patients have been in hospital 5 years or more, the prognosis in the majority of these cases being hopeless.

9.—Admissions

	1930			1931		
	M	F	T	M	F	T
1st admissions, certified patients ...	52	44	96	59	47	106
2nd admissions, „ ...	12	9	21	11	7	18
3rd admissions, „ ...	...	3	3	1	5	6
4th admissions, „ ...	...	...	...	...	1	1
Readmissions from probation leave ...	32	21	53	40	17	57
„ leave under G. N. No. 239/24... 13	13	18	31	43	21	64
Admitted under interim detention later found not to be proper persons to be kept in hospital and accordingly released ...	20	14	34	21	14	35
Admitted under interim detention but not certified or released on 31.12.31 ...	5	5	10	2	2	4
Admitted under interim detention and died whilst so detained ...	1	1	2	1	1	2
Total ...	135	115	250	179	115	294

The above table shows that in 1931 there were admitted into the Mental Hospital as certified insane (1st, 2nd, 3rd and 4th admissions) a total of 131 patients (males 71, females 60), hereunder referred to as direct admissions.

Included in the 131 direct admissions are 2 males and 3 females who were under interim detention on 31.12.30 and were certified during 1931.

10. Table showing the districts whence came the 131 direct admissions and the insane rate per 10,000 of the population of such districts :—

Districts	No. of direct admissions	Estimated population of districts on 31.12.31	Insane rate per 10,000 of population
Plaines Wilhems ...	62	95,892	6.4
Port Louis ...	28	54,290	5.1
Grand Port ...	11	48,007	2.2
Moka ...	5	29,265	1.7
Flacq ...	9	51,982	1.7
Rivière du Rempart...	5	30,518	1.6
Black River ...	2	14,070	1.4
Pamplemousses ...	4	36,299	1.1
Savanne... ..	3	30,721	0.9
Total ...	129	391,044	3.2
Rodrigues ...	2	...	...

The above table shows that the incidence of insanity is much lower in the agricultural districts.

11. The following table shows the probable causes of insanity in the case of 118 direct admissions :—

Causes				M	F	T
<i>Heredity :</i>						
Insane	...	...	...	8	11	19
Epileptic	..	...	...	...	...	...
Neurotic	...	...	...	...	...	...
Marked eccentricity and alcoholism	...	...	...	...	...	...
<i>Mental instability :</i>						
Moral deficiency and eccentricity	...	...	...	...	...	...
Feeble-mindedness	...	...	...	...	...	...
Deprivation of special senses	...	...	...	...	...	...
<i>Critical periods :</i>						
Puberty and adolescence	...	...	...	...	1	1
Climacteric	...	...	...	...	4	4
Senility	...	...	...	2	2	4
<i>Child bearing :</i>						
Pregnancy	...	...	...	...	...	...
Puerperium	...	...	...	...	9	9
Lactation	...	...	...	...	1	1
<i>Mental stress :</i>						
Sudden	...	...	...	7	3	10
Prolonged	...	...	...	6	11	17
<i>Physiological defects and errors :</i>						
Malnutrition in early life	...	...	...	...	...	...
Privation and starvation	...	...	...	3	3	6
Physical over-exertion	...	...	...	...	1	1
Masturbation and sexual excess	...	...	...	...	...	...
<i>Traumatic :</i>						
Injuries	...	...	...	1	...	1
Operations	...	...	...	1	1	2
Sunstroke	...	...	...	...	...	...
<i>Diseases of Nervous System :</i>						
Brain lesions	...	...	...	2	...	2
Lesions of spinal cord and nerves	...	...	...	1	...	1
Epilepsy	...	...	...	7	7	14
Convulsions	...	...	...	3	3	6
Neuroses	...	...	...	...	...	...
Night terrors	...	...	...	...	...	...
<i>Toxic :</i>						
Syphilis	...	...	...	8	4	12
Alcohol	...	...	...	13	1	14
Drugs, e.g., gandia, opium, cocaine, &c.	...	...	...	...	...	...
Lead and other metals	...	...	...	...	...	...
Tetanus	...	...	...	1	...	1
Malaria	...	...	...	15	21	36
Influenza	...	...	...	1	...	1
Enteric	...	...	...	4	...	4

		Causes	M.	F.	T.
<i>Toxic:—(Continued)</i>		—	—	—	—
Other specific fevers
Sepsis: dental, tonsils, sinuses, &c., &c.	1	1
Ankylostomiasis	1	...	1
Phthisis	2	...	2
Dysentery: amœbic	1	...	1
„ : bacillary
„ : other types	2	2
Other toxins	1	1	2
<i>Other bodily affections:</i>					
Arteriosclerosis	6	2	8
Other cardio-vascular lesions
Urinary	1	1	2
Respiratory	3	1	4
Thyroid and pituitary disorders
Beri-beri, pellagra, diabetes
Uræmia	3	...	3

In examining the above table it should be borne in mind that one or more of the causes enumerated therein may be responsible for the production of the mental illness, hence the excess of the aggregate of such causes over the number of patients considered.

Heredity, mental stress, malaria, epilepsy, alcohol and syphilis are, as usual, prominent etiological factors.

12.—Alcoholism

Of the 14 alcoholics (males 13, female 1) admitted during the year, 8 were creoles and 6 Indians.

The following table gives the districts whence came the alcoholics admitted during the period 1927–1931:

Districts		1927	1928	1929	1930	1931
Port Louis	...	1	6	7	3	3
Plaines Wilhems	...	4	4	3	2	4
Rivière du Rempart...	...	2	1	1	...	...
Savanne	...	...	1	1	2	1
Grand Port	...	2	...	1	1	3
Moka	...	...	1	1	...	1
Pamplemousses	...	...	...	2	...	1
Black River	...	...	...	...	1	1
Flacq	...	...	...	...	...	...
Total	...	9	13	16	9	14

13.—Discharges

The total number of discharges during the year was 230 as against 192 in 1930.

The following table shows the classification of discharges for 1930 and 1931:—

		1930			1931		
		M.	F.	T.	M.	F.	T.
Discharged recovered	...	1	0	1	...	1	1
„ relieved	...	66	45	111	73	43	116
„ not improved	...	4	1	5	2	3	5
„ on leave under G.N. No. 239/24	...	18	19	37	45	19	64
Alleged mental patients found sane and released	...	20	15	35	25	19	44
Transferred to Moka and Victoria Hospitals	...	...	3	3	...	...	...
		109	83	192	145	85	230

The percentage of discharges (recovered, relieved, not improved) to admissions (direct admissions plus readmissions from probation) was 64.8 (males 67.5, females 61.0) compared with 67.6 for 1930 (males 73.9, females 59.7).

During the year 27 patients (males 17, females 10) out on probation leave, were found cured and finally discharged.

14.—Deaths

During the year there were 56 deaths (males 30, females 26), as against 28 in 1930 (males 17, females 11).

Of these deaths, 6 took place within one month of admission at the Mental Hospital and were mainly due to the poor state of health of the patients admitted.

The death rate, calculated on the daily average number of patients resident, was 8.23% (males 7.77%, females 8.84%), compared with 4.28% for 1930 (males 4.58%, females 3.88%). The following table gives the causes of death and the number of patients who died from each cause:—

Causes		M	F	T
Acute lobar pneumonia	...	3	6	9
Epilepsy	...	5	2	7
Senility	...	4	2	6
Phthisis	...	3	1	4
Dysentery	...	1	2	3
Chronic enteritis	...	2	1	3
Malaria	...	2	1	3
Ascariasis	...	0	2	2
General paralysis of the insane	...	1	1	2
Acute enteritis	...	2	0	2
Broncho-pneumonia	...	1	1	2
Chronic nephritis	...	1	1	2
Asthenia	...	...	1	1
Fractured skull	...	1	...	1
Mitral regurgitation	...	...	1	1
Carcinoma of pharynx	...	...	1	1
Cerebral syphilis	...	...	1	1
Chronic pleurisy	...	...	1	1
Acute hepatitis	...	1	...	1
Cerebral hæmorrhage	...	...	1	1
Ankylostomiasis	...	1	...	1
Perforated stomach	...	1	...	1
Chronic bronchitis	...	1	...	1
Total	...	30	26	56

16 post-mortem examinations were made, giving a percentage of 28.5 of total deaths.

15.—Prevalence of Sickness

The following table gives the number of cases treated in both infirmaries, the daily average of sick and the sick rate for the years 1930, 1931:—

	1930			1931		
	M.	F.	T.	M.	F.	T.
Number of cases treated in infirmaries	166	107	273	256	199	455
Daily average of sick in infirmaries ...	5.48	4.22	9.70	7.91	4.95	12.86
Sick rate per cent calculated on daily average number of patients in hospital ...	1.47	1.49	1.48	2.4	1.68	1.88

16. Table of monthly admissions into the two infirmaries, total stay therein and average stay per patient for the years 1930, 1931:—

1930				1931			
	M.	F.	T.		M.	F.	T.
January ...	24	11	35	January ...	21	18	39
February ...	15	7	22	February ...	27	6	33
March ...	7	5	12	March ...	18	18	36
April ...	8	6	14	April ...	20	23	43
May ...	15	11	26	May ...	25	29	54
June ...	16	14	30	June ...	19	18	37
July ...	18	6	24	July ...	21	19	40
August ...	15	15	30	August ...	13	18	31
September ...	12	7	19	September ...	18	9	27
October ...	4	8	12	October ...	19	18	37
November ...	17	7	24	November ...	32	11	43
December ...	15	10	25	December ...	23	12	35
Total	166	107	273	Total ...	256	199	455
Total stay in days	2,005	1,544	3,549	Total stay in days	2,890	1,810	4,700
Average stay per patient ..	12.07	14.42	13.00	Average stay per patient ...	11.28	9.09	10.32

17. The following table shows the monthly admissions into both infirmaries for the commoner diseases :—

Diseases	January	February	March	April	May	June	July	August	September	October	November	December	Total
Malaria ...	7	17	11	14	22	5	10	6	3	9	3	6	113
Epilepsy ...	5	3	1	7	3	5	...	4	5	4	4	1	42
Influenza ...	5	2	3	5	4	...	1	1	5	2	5	2	35
Abscess ...	1	1	..	1	2	5	2	3	1	...	2	3	21
Dysentery amoebic	1	...	5	...	3	...	4	1	1	...	3	...	18
„ other causes	1	...	2	2	2	3	2	...	...	5	2	2	21
Boils ...	1	...	1	1	...	...	1	2	3	3	4	3	19
Ulcers ...	2	...	...	2	2	...	...	1	3	2	1	2	15
Lobar pneumonia	2	...	1	...	1	1	2	1	1	1	1	...	11
Acute enteritis	...	...	...	1	...	3	...	1	...	1	...	2	8
Phthisis ...	..	...	...	...	2	1	1	1	...	...	1	1	7
Gastritis ...	...	1	3	...	...	...	1	...	...	1	...	1	7
Cellulitis ...	2	...	1	...	...	2	...	...	...	...	1	...	6
Asthma ...	...	1	...	1	2	...	1	...	...	1	...	...	6
Eczema ...	...	...	1	...	1	1	...	...	...	...	2	1	6
Ankylostomiasis	...	—	...	...	1	...	...	1	1	...	...	2	5
Ascariasis ...	1	...	1	...	1	...	...	...	...	...	1	1	5

18.—*Infectious and allied diseases.*

Dysentery cases numbered 39, in 11 of which the *Entamoeba Hystolytica* was present. Influenza cases numbered 35 as compared with 11 for 1930. Malaria accounted for 113 cases as against 47 for 1930.

During the year 6 cases of phthisis needed active treatment, 4 of whom died. There were no cases of enteric, neither did our patients suffer from the exanthemata.

19.—*Violence, escapes, &c.*

There were no cases of suicide or homicide.

Three patients escaped during the year. One, Maxime A... absconded on 2.1.31, and was re-captured and brought back to hospital on 29.4.31. Another I. F....., a woman, escaped from the Barkly Annexe on 20.2.31 and was apprehended the next day. A third, R. B....., a male criminal mental patient, escaped during the night of the 28th to the 29th May, 1931 with the connivance of several members of the staff. The case was brought before the District Court of Rose Hill and, as a result, two of our servants were sentenced, each to three months hard labour. R. B..., was brought back to hospital on 13.2.32.

The number of cases of injury to patients was as follows :

Self-inflicted	...	...	...	4
Inflicted by attendants	...	...	...	...
„ patients	...	...	...	83
„ accidentally	...	...	..	81

The above injuries were of a trivial nature except :

- (i) A fracture of the metacarpal of the right index finger caused by the patient hitting another.
- (ii) A fractured skull resulting in concussion and death. Deceased was pushed down by a patient.
- (iii) A simple fracture of the right tibia caused by a patient hitting another with a chair.
- (iv) A lacerated wound of the middle finger of the right hand. The wound became septic and the finger had to be amputated at the metacarpo-phalangeal joint.
- (v) On 2.12.31 H. S , a male patient, whilst being artificially fed, died from haemorrhage caused by the tube perforating the wall of the stomach and rupturing a blood vessel of that viscus. A Coroner's inquest was held on the case.

On twenty occasions members of the staff were injured by patients, but in no case was the injury of a serious nature.

20. Table showing the classification of the 649 certified patients in hospital on 31.12.31 according to the types of mental disorder :

Types of mental disorder	M.	F.	T.
Primary dementia	57	27	84
Senile dementia ...	11	5	16
Terminal dementia	136	113	249
Carried forward	204	145	349

Types of mental disorder	M.	F.	T.
<i>Brought forward</i> ...	204	145	349
Amentia with epilepsy ...	18	10	28
„ without epilepsy ...	23	14	37
Mania, recent ...	11	17	28
„ recurrent ...	6	15	21
„ chronic ...	7	8	15
„ acute delirious ...	...	...	...
Melancholia, recent ...	10	10	20
„ recurrent ...	1	...	1
„ chronic ...	8	7	15
Alternating insanity ...	6	4	10
Paranoia ...	4	3	7
Paraphrenia ...	7	7	14
Non-systematised delusional insanity	10	10	20
Acute confusional insanity ...	5	2	7
Epileptic insanity... ..	33	28	61
General paralysis of the insane ...	6	1	7
Volitional insanity ...	...	...	...
Moral insanity ...	6	1	7
Insanity with gross brain lesion ...	1	...	1
Undiagnosed ...	1	...	1
Total ...	367	282	649

21.—Occupational treatment.

There are no properly equipped workshops. During the year a daily average of 42 male patients, mostly Indians, attended to the vegetable gardens. All the laundry work of the hospital was done by female patients and this, together with ward work, kitchen work, darning, the upkeep of the hospital grounds and piggery, mattress-making, carpentering and the manufacture of hospital tinware, gave employment daily to an average of 187 male and 87 female patients.

The estimated value of the work done by patients during the year, including institution garden produce, was Rs. 15,488.11.

22.—Restraint and Seclusion

During the year mechanical restraint.—Strait-jacket—was resorted to in the case of 12 males and 9 females, and seclusion in the case of 8 males and 6 females.

The greatest duration for mechanical restraint and seclusion was 10 hours.

23.—Recreation

During 1931 the Police Band played eleven times at the hospital. Twelve cinematograph performances were given as well as three treats consisting of cakes, fruit, lemonade and other delicacies. Gramophone music is played during the week and always on Sundays. Cards, draughts, dominoes, chess and loto are favourite games. Our soccer team, made up mostly of patients with an occasional leaven of one or two attendants, frequently distinguishes itself against local visiting teams. Illustrated French and English papers and periodicals are sent us by people interested in the welfare of our patients but the numbers received are far below our requirements. The piano in the female department was occasionally used by patients, their friends and relatives.

24.—Cost of Maintenance

The items making up the average weekly cost, per head, are given in the following table for the period 1.7.30 to 30.6.31 :—

Items	Rs.	c.
Provision, fuel and light, not including institution garden produce ...	105,179	86
Personal emoluments	99,472	88
Clothing, bedding, uniforms and washing requisites ...	18,790	82
Surgery and dispensary	1,107	67
Implements, stores, sundries	2,471	34
Fees for district Commissioners of Lunacy	2,520	...
Fees for Member of Central Board	252	...
Recreation for patients	792	61
Telephone	182	49
Travelling and transport	915	55
Total ...	231,685	22
Less fees received from private patients	Rs. 11,213	93
Less sale price of refuse food ...	607	21
„ sale price of one pig ...	55	...
	Less	11,876 14
Net total expenditure ... ..	...	219,809 08
Average weekly cost per head ...	...	6 27

The following table gives the average weekly cost per head, the net total expenditure, and the daily average number of patients in hospital for the financial years 1926-27 to 1930-31 :—

Years	Net total expenditure	Average weekly cost per head	Daily average number of patients in hospital
1926-27	Rs. 245,637.69	Rs. 7.86	601
1927-28	256,831.02	7.92	623
1928-29	249,134.07	7.90	606
1929-30	226,910.87	6.85	637
1930-31	219,809.08	6.27	674

It will be seen from the above table that the weekly cost of maintenance per patient has again been considerably diminished. It is interesting to compare our average weekly cost per head with that for the English County and Borough Mental Hospitals, which is about Rs. 15.

25.—Staff

The staff of the hospital consists of :—

1 Medical Superintendent.	13 Male Warders.
1 Assist. Medical Superintendent.	8 Female Nurses.
1 Steward and Accountant who also acts as Head Attendant.	1 Gatekeeper.
	1 Seamstress.
1 Dispenser and Storekeeper.	68 male Servants.
1 Matron.	45 female Servants.
1 Assistant Matron.	

On 1.5.31, Mr Philippe Auffray was appointed Warder, vice Mr J. B. A. Suzor, resigned.

On 15.6.31, Miss Emilienne Vallet was appointed Nurse, vice Miss J. Gibson, resigned.

Miss Marguerite Fitzgerald was appointed Nurse on 1.7.31 vice Miss Y. Michel, resigned.

Miss Noemie Henry was appointed Nurse on 16.11.31 vice Miss F. Loizeau, resigned.

On 15.11.31 Warder G. Grenouille was dismissed the service.

On 12.11.31 acting Assistant Matron S. Sharrock was also dismissed the service.

26.—Accommodation

The hospital is overcrowded, especially on the female side.

Our present female population numbering 293 is housed in wards which were originally intended to hold 233. Consequently, we cannot properly segregate our noisy and refractory cases. The female new admissions, too, are not classified and are now sent to the infirmary which has space for only 22 beds. There they meet the sick and infirm chronics who are often noisy and objectionable in their habits. Such a state of affairs is, of course, detrimental to the recoverable cases.

27.—Dietary

G. N. No. 180, dated 17th October 1931, repealed the old dietary and replaced it by a more varied and better balanced one.

28.—Visits

His Excellency the Governor visited the Institution on 24.3.31 and His Lordship the Bishop of Port Louis on 4.9.31.

During the year the Central Board of Commissioners of Lunacy held 12 monthly meetings and on each occasion visited the hospital. Apart from his monthly visits with the Central Board, the Honourable Medical Director also called at the Mental Hospital on 21 other occasions.

Two Boards of Survey were held and our accounts and stores were checked 7 times by an Audit Inspector.

No irregularities were detected.

29.—Religious Services

During the year mass was said on 10 occasions.

There were also 2 Church of England services.

An average of 40 patients attended each Roman Catholic service, the corresponding number for each Anglican service being 7.

30.—Conclusions

To conclude, I wish to thank the Honourable the Medical Director and the Members of the Central Board of Commissioners of Lunacy for their valuable help in improving the welfare of our patients.

Beau Bassin,
12th April, 1932.

(S.) J. D. DYSON,
M.B. B.S., Lond; D.P.M.
Medical Superintendent, Mental Hospital.

APPENDIX VI.

ANNUAL REPORT ON THE LEPER HOSPITAL FOR 1931

The following table gives the number of patients, admissions, discharges and deaths for the period under review.

			Males	Females
			—	—
Remaining on 1.1.31	...		30	13
Admissions	...	...	10	...
			—	—
Total	...		40	13
Discharge	...	...	3	2
Died	...	...	2	2
			—	—
Remaining on 31.12.31	...		35	9

Out-patients :—4 patients three males and one female attended as out-patients. They are, for all practically purposes cured cases, and attend periodically for examination and treatment.

Admissions :—Of the 10 male patients admitted during the year 4 came from Rodrigues, 3 being in the C_3 stage and one in the N_1 stage.

The local cases were of the following types 2 C_3 and 4 N_2 .

Discharges :—2 patients (one male, one female) were discharged to return to Rodrigues, one being a disease arrested case and the other cured.

Of the remaining three discharges, one in a former C_3 case discharged cured and without any disabling deformity. He was transferred to the out-patient list, attended regularly and has remained well. The other two are disease arrested non infective N_2 cases.

Deaths :—The causes of death in the four cases were :—

Blackwater fever ... 1 , Broncho-pneumonia... 1 ,
Pulmonary tuberculosis... 1 , Exhaustion and Toxaemia in an advanced nodular case accounted for the fourth death.

General remarks :—On the whole, the health conditions of the patients during the year under review have been good. Periodical attacks of Malaria in the newly admitted patients proved a serious drawback, especially in the case of the Rodrigues contingent, but the beneficial effects of treatment were not thereby nullified. The old cases have continued to improve, whilst very satisfactory progress has been noted in the new cases. In fact, after allowance has been made for type of disease, previous habits and personal history, age and duration of disease, the new cases have shown more notable response to treatment than the old ones.

This may be due to the fact that in chronic infectious diseases responding to treatment, it is comparatively easy to get a patient improved up to a certain point past which the clearing up of what has been called his "residual infection" becomes a matter of greater difficulty.

There may also be another reason for the rapid change noted, which I propose to discuss here.

The treatment of leprosy does not resolve itself into the mere administration or injection of any act of drugs. In patients confined in an Institution the following points have to be stressed and the patients made to understand their importance and bearing on the prognosis of the case :

- 1o. clean personal habits.
- 2o. healthy activity.

We venture to believe that because the new patients are instructed as a preliminary to treatment, to develop habits conducive to the realisation of the points named above and that they have fully responded, that the progress has been so noteworthy.

A further extension to this scheme was made this year. A vegetable garden looked after by the patients produced a certain proportion of the vegetables consumed in the Institution.

Fruit trees have been planted and as opportunity arises, the plantations are further extended, our aim being to produce as much fruit of every possible variety for hospital consumption.

Classification and type of disease.—More than 50% of our patients are of the nerve type, in whom the disease has been in existence for many years. They are now left with mutilations, deformities and trophic changes which call for no special treatment as far as leprosy is concerned. They are mere cripples with no relatives able or liable to support them. 25 of our patients (19 males, 6 females) belong to this class. Of the remaining 19, the classification of the disease according to type is as follows :

1o. nerve case without deformity or trophic change	...	...	...	2
2o. mild cutaneous case	...	...	...	3
3o. cutaneous case of medium severity	...	...	...	7
4o. advanced nodular case	...	...	...	5
5o. leucoderma	...	...	...	1
6o. cured case, but patient blind...	...	...	...	1
				<hr/>
				19
				<hr/>

The classification outlined above holds good as on the 31.12.31. The cases in type 1o. & 2o. are almost cleared up, whilst a number of cases in type 3o. were formerly advanced nodular cases.

Visits :—We were honoured during the period under review with the visit of His Excellency the Governor and of His Lordship the Bishop of Port Louis.

Recreations :—The Police Band played to the inmates on the 30.12.31, and this opportunity was availed of to treat the patients to a little entertainment as on a previous occasion a year ago.

I am glad to have to report that the same close interest in the welfare of our patients has been evinced by a few lady visitors and their family who have missed no occasion to visit our patients and present them with little extra comforts. The adverse financial circumstances of the Colony have proved no drawback to their charitable exertions and I wish to thank them for their kindness.

My thanks are also due to the Honourable the Director Medical and Health Department for the support and encouragement extended to me in my endeavours to promote the welfare of the inmates of this Hospital.

25th May 1932.

H. ANDRÉ,
Medical Superintendent Leper Hospital.

APPENDIX VII.

Director,

I beg to submit a short statement on the Electro-Medical work done at the various hospitals.

Moka Hospital :—The X ray plant at this Institution is a small set using Radiator coolidge tubes with non-rectified current. The apparatus is very efficient for radioscopy for which it is exclusively employed. Protection from direct and secondary radiation is not up to the standard laid down by the N. P. L.

Energy is obtained from a petrol engine driving a coupled generator.

The number of examinations from January to December, 1930, came to a total of 863. From January to June 1931, the number of cases screened were 250. These examinations were routine investigations in chest and gastro-intestinal cases.

No attempt has been made to classify the cases, it is hoped however that as soon as the necessary clerical assistance is forthcoming, a more complete and comprehensive report will be issued. This remark applies equally to the other hospitals viz : Civil, Victoria.

The fees collected amounted to a sum of Rs. 1,743 50 and the expenditure on petrol, oil, barium sulphate was Rs. 368.32.

Of the chest cases a large number of tubercular disease of lungs was noted, the majority of patients being of the poorer classes.

It may be noted that in cases of "open" tuberculosis of the lungs, artificial pneumothorax, controlled by repeated screen examinations, is of real value.

It is a striking fact that all these patients show improvement under this therapeutic measure. Many cases after air insufflation have come under my notice and whatever may be the ultimate result, the immediate one is that there is lessening of the amount of sputum while repeated examinations show the absence of tubercle bacilli.

Keeping this result in mind and in view of the deplorable hygienic conditions under which the majority of these patients live, it would seem that artificial pneumothorax has a certain prophylactic value.

Civil Hospital:—The apparatus is an obsolete one and is at the last stage of usefulness, the capacity of the plant is limited and it is used only for work requiring a small output of X rays. Its characteristics are: An induction coil, a centrifugal mercury interrupter and gas tubes.

Cases requiring a heavy output of radiation are sent to Victoria Hospital where a 10 K.V.A. set is installed.

From November to October 1930, 262 cases were radiographed and 35 screened and from November 1st/30 to November 21/31 the corresponding numbers were 102 and 33 respectively.

The expenditure on petrol, oil etc. amounted to Rs. 102.40 and the takings to Rs. 136.08.

Ultra violet therapy is available at this institution, a mercury vapour burner supplying the U. V. radiation. Three hundred and nine cases were treated during the period under review.

The conditions ranged from furunculosis, sycosis, general debility, marasmus, glandular enlargements, to various skin affections. All cases showed improvement but the most gratifying results were obtained in three cases of tuberculosis of bone which can be labelled "clinically cured." The disease involved the wrist in two cases and the ankle in one case.

Victoria Hospital:—This institution possesses a regular Electrical department. The X ray apparatus, a 10 K. V. A. set with mechanical rectifier, was supplied by a well known British manufacturer and therefore conforms to the standard laid down by the N. P. L. as regards protection.

In addition there is a Diathermy apparatus, a mercury vapour lamp.

Electro-therapy is also available.

The X ray work consists of the usual hospital cases and it is here that the cases which cannot be dealt with at other hospitals are sent for investigation and treatment.

As the current for energising the various appliances is obtained from a generator direct coupled to a four cylinder internal combustion engine, the cost per unit is consequently high. The department has recently been supplied with current from the mains, a condition of affairs which will result in improvement from every point of view.

From Nov/29 to Dec./31—1,362 skiagrams were taken. No cases presenting unusual features have cropped up to warrant investigation and report.

X ray therapy is not considered as it is felt that a diagnostic set cannot be used for therapy. It is not good policy or in the interest of economy to work a 10 K. V. A. apparatus at its maximum voltage as would necessarily happen in therapy requiring rays of medium penetration.

The skin and other conditions requiring relatively soft rays can be treated by other means at our disposal.

A detailed report cannot be presented under present circumstances, the Radiologist works single handed and attends to every detail in connection with the routine of the Department, neither student nor nurse being available.

The Diathermy apparatus has been in action for several years and a new one is urgently needed. It would be tedious to enumerate all and every condition treated, a general survey will therefore suffice.

Conditions treated :—

- (1) Pelvic diseases in women.
- (2) Sciatica and other nerve conditions.
- (3) Ulcers.
- (4) Painful joints.
- (5) Chronic gonorrhœa.
- (6) Rodent ulcers.
- (7) Granuloma inguinale.
- (8) Coagulation of tonsils.

After several years practice with high frequency currents, one is driven to the conclusion that a Diathermy apparatus is a necessary adjunct to a general hospital. Besides the numerous indications for its use Diathermy has a claim which cannot be lightly put aside.

In many cases the length of stay in hospital of a patient has been considerably shortened under its influence. This remark applies particularly to those cases with painful joints and weak muscles following immobilisation for certain fractures. The combination of Diathermy, Ultra violet radiation and Schnee baths using the sinusoidal current, has given excellent results; the period of inactivity being shortened and the patient able to resume work shortly after his discharge from hospital. Rodent ulcer is another condition which has given brilliant results. Many cases have had radium applications and after several months of apparent cure, the old lesion has broken out again. Diathermy has definitely cured these cases.

The following notes of a case of granuloma inguinale may prove of interest.

M.P. Male, Indian, aged 26, labourer. Admitted to Victoria Hospital on 13.6.30. The lesions were then confined to the middle third of Poupard's ligament on right side. Various local applications were tried and a course of intravenous injections of Tartar emetic was started, the initial dose was 0 gr. 06 and this was increased by 0 gr. 03 every four days, in all he received eleven injections. Large doses of K. I. and Arsenic were also given by mouth. The Wassermann reaction was negative on three different occasions.

The condition did not improve and he was discharged at his own request on 19.9.30.

He was re-admitted on 31.10.30 for the same complaint which had progressed and finally discharged cured on 8.2.32.

During the 15 months stay in hospital the following measures, amongst others, were tried.

- (1) Scraping with sharp spoon.
- (2) Thermo-cautery.
- (3) N. A. B injections (0.15—0.90.)
- (4) Neo Trepol (Intra muscular injections).
- (5) Tartar Emetic.
- (6) Wide excision and skin grafts (on several occasions).
- (7) Protein shock therapy (Intravenous injections of Antityphoid Vaccine).

In December 1931 I was asked to see the patient and the suggestion was put forward that Diathermy might be of use.

The man was then emaciated, weak, had not been sleeping well for weeks, had a good deal of pain in the affected part and his mental condition can be imagined.

The ulcerations extended from the symphysis pubis to about 1" above and behind the right superior iliac spine, and about 1½" above Poupard's ligament to the femoro-scrotal angle. This area however was not uniformly affected, the distribution was patchy, the largest patch being about six square inches and the smallest the size of a 3d.

The patient was given a general anesthetic and the ulcerations were carefully gone over with a small ball electrode, particular attention being paid to the edges, until the surface presented a uniform greyish white appearance.

Normal saline dressings were applied and continued until the sloughs separated about 12 days later leaving raw surfaces with healthy granulations. The patient felt better, slept well as pain had practically disappeared. A few days later healthy epithelium had started growing from the edges. To hasten the healing of such a large raw area, Thiersch's grafts were applied and were successful. The man was seen two months after his discharge, the cicatrices were soft, supple, sound and he was on the point of resuming work.

During the latter part of his stay in hospital, the patient was under the charge of Dr. E. H. Madge, the Senior Resident, who instituted the protein shock therapy and skilfully performed the excision and grafting thereby paving the way for and completing the cure by Diathermy. It is to be regretted that no photographic records of this interesting case are available.

The following conditions have not responded to treatment or the improvement has been so light as to be negligible.

- (1) Long Standing cases of Sciatica.
- (2) Osteo-arthritis.
- (3) Arthritis Deformans.
- (4) Peripheral Neuritis.
- (5) Hyperpiesia.
- (6) Gonococcal arthritis with ankylosis.

(S) W. R. DUPRÉ,
D.M.R.E. (CAMB.)

21st July 1932

APPENDIX VIII.

RETURN OF DISEASES AND DEATHS (IN PATIENTS) FOR THE YEAR 1931

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
1.—Epidemic, Endemic and Infectious Diseases					
1. Enteric Group—					
(a) Typhoid Fever	3	54	22	57	4
(b) Paratyphoid A. ... ..	...	1	...	1	...
(c) Paratyphoid B. ... ..	...	...	...	...	...
(d) Type not defined ... ..	...	...	...	...	...
2. Typhus ... ..	...	...	...	...	...
3. Relapsing Fever ... ..	...	...	...	...	...
4. Undulant Fever ... ..	...	...	...	...	...
5. Malaria	29	2,093	30	2,122	36
(a) Tertian	5	925	16	930	8
(b) Quartan ... ..	...	55	...	55	...
(c) Aestivo-autumnal	1	165	15	166	2
(d) Cachexia	2	684	56	686	5
(e) Blackwater ... ..	...	220	15	220	...
(f) Pernicious	1	27	8	28	...
(g) Cerebral ... ..	...	3	2	3	...
(h) Chronic	1	28	...	29	...
(i) Quotidian	2	480	20	482	6
6. Smallpox—					
Alastrim ... ..	...	...	...	...	...
7. Measles ... ..	...	...	...	...	...
8. Scarlet Fever ... ..	...	...	...	...	...
9. Whooping Cough	11	140	7	151	...
10. Diphtheria ... ..	...	15	3	15	1
11. Influenza	11	654	5	665	2
12. Miliary Fever ... ..	...	...	...	...	...
13. Mumps ... ..	...	3	...	3	...
14. Cholera ... ..	...	...	...	...	...
15. Epidemic diarrhœa ... ..	...	...	...	...	...
16. Dysentery—					
(a) Amœbic	10	730	53	740	13
(b) Bacillary ... ..	...	15	3	15	...
(c) Undefined or due to other causes	3	398	35	401	27
17. Plague—					
(a) Bubonic ... ..	...	...	...	...	...
(b) Pneumonic ... ..	...	...	...	...	...
(c) Septicæmic ... ..	...	...	...	...	...
(d) Undefined ... ..	...	...	...	...	...
18. Yellow Fever ... ..	...	...	...	...	...
19. Spirochætosis ictero-hæmorrhagica ... ..	...	...	...	...	...
20. Leprosy ... ..	...	4	1	4	...
21. Erysipelas ... ..	...	70	5	70	2
22. Acute Poliomyelitis ... ..	...	...	...	...	...
23. Encephalitis Lethargica ... ..	...	...	...	...	...
24. Epidemic Cerebro-spinal Fever ... ..	...	...	...	...	...
25. Other Epidemic Diseases—					
(a) Rubeola (German Measles) ... ..	...	...	...	...	...
(b) Varicella (Chicken-pox) ... ..	...	10	...	10	...
(c) Kala-azar ... ..	...	...	...	...	...
(d) Phlebotomus Fever ... ..	...	...	...	...	...
(e) Dengue ... ..	...	...	...	...	...
(f) Epidemic Dropsy ... ..	...	...	...	...	...
(g) Yaws ... ..	...	...	...	...	...
(h) Trypanosomiasis ... ..	...	...	...	...	...
26. Glanders ... ..	...	...	...	...	...
27. Anthrax ... ..	...	...	...	...	...
28. Rabies ... ..	...	...	...	...	...
29. Tetanus	1	36	18	37	1
30. Mycosis ... ..	...	...	...	...	...
31. Tuberculosis Pulmonary and Paryngeal	22	743	137	765	13
32. Tuberculosis of the Meninges or Central Nervous System ... ..	...	...	...	...	...
33. Tuberculosis of the Intestine or Peritoneum	2	27	4	29	...
34. Tuberculosis of the Vertebral Column ... ..	...	8	...	8	1
Total carried forward ..	104	7,588	455	7,692	121

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
Brought forward ...	104	7,588	455	7,692	121
<i>1.—Epidemic Endemic and Infectious Diseases.—(Contd.)</i>					
35. Tuberculosis of Bones and Joints ...	2	14	3	16	...
36. Tuberculosis of other organs—					
(a) Skin or Subcutaneous Tissue (Lupus) ...	...	6	1	6	...
(b) Bones ...	2	25	...	27	..
(c) Lymphatic System ...	...	22	1	22	...
(d) Genito-urinary ...	...	...	...	...	...
(e) Other Organs ...	...	1	...	1	...
37. Tuberculosis disseminated—					
(a) Acute ...	...	...	...	...	...
(b) Chronic ...	...	...	...	...	...
38. Syphilis—					
(a) Primary ...	3	37	...	40	...
(b) Secondary ...	...	48	...	48	...
(c) Tertiary ...	4	156	3	160	4
(d) Hereditary ...	...	41	5	41	4
(e) Period not indicated ...	5	83	2	88	..
39. Soft Chancre ...	8	92	...	100	1
40. A.—Gonorrhœa and its complications ...	8	237	...	245	...
B.—Gonorrhœal Ophthalmia ...	...	13	...	13	1
C.—Gonorrhœal Arthritis ...	1	26	...	27	...
D.—Gonorrhœal Venereum ...	...	...	...	...	...
41. Septicæmia ...	...	8	3	8	...
42. Other Infectious Diseases—					
(a) Trypanosomiasis ...	...	...	...	...	...
(b) Filariasis ...	...	72	2	72	1
<i>II.—General Diseases not mentioned above</i>					
43. Cancer or other malignant Tumours of the Buccal Cavity ...	...	8	5	8	...
44. Cancer or other malignant Tumours of the Stomach or Liver ...	...	16	6	16	...
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum ...	...	22	4	22	...
46. Cancer or other malignant Tumours of the Female Genital Organs ...	3	70	6	73	...
47. Cancer or other malignant Tumours of the Breast ...	1	18	4	19	1
48. Cancer or other malignant Tumours of the Skin ...	1	16	2	17	...
49. Cancer or other malignant Tumours or Organs not specified ...	...	8	2	8	...
50. Tumours non-malignant ...	2	83	4	85	1
51. Acute Rheumatism ...	5	131	..	136	5
52. Chronic Rheumatism ...	1	153	...	154	2
53. Scurvy (including Barlow's Disease) ...	...	...	...	...	...
54. Pellagra ...	...	...	...	...	...
55. Beri-Beri ...	...	5	...	5	...
56. Rickets ...	...	...	...	...	...
57. Diabetes (not including Insipidus) ...	1	64	5	65	2
58. Anæmia—					
(a) Pernicious ...	...	18	13	18	1
(b) Other Anæmias and Chlorosis ...	6	260	35	266	3
59. Diseases of the Pituitary Body ...	...	...	...	...	...
60. Diseases of the Thyroid Gland—					
(a) Exophthalmic Goitre ...	...	...	...	...	...
(b) Other Diseases of the Thyroid Gland, Myxœdema ...	...	1	...	1	...
61. Diseases of the Para-Thyroid Glands ...	...	...	...	...	...
62. Diseases of the Thymus ...	...	...	...	...	...
63. Diseases of the Supra-Renal Glands ...	...	...	...	...	...
64. Diseases of the Spleen ...	...	27	...	27	...
65. Leukæmia—					
(a) Leukæmia ...	...	...	...	...	...
(b) Hodgkin's Diseases ...	...	...	...	...	..
Total carried forward ...	157	9,369	561	9,526	147

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
Brought forward	157	9,369	561	9,526	147
II.— <i>General Diseases not mentioned above.—(Contd.)</i>					
66. Alcoholism ... ..	...	16	...	16	1
67. Chronic poisoning by mineral substances (lead, mercury, &c.) ... ..	...	...	...	...	...
68. Chronic poisoning ² by organic substances (Morphia, Cocaine, &c.) ... ..	...	...	...	...	...
69. Other General Diseases—					
Auto-intoxication ... ..	...	3	3	3	...
Purpura-Hæmorrhagica ... ..	...	2	...	2	...
Hæmophilia ... ..	...	...	...	...	...
Diabetes Insipidus	1	2	..	3	...
Uræmia ... ..	...	1	...	1	...
Toxæmia ... ..	...	1	1	1	...
III.— <i>Affections of the Nervous System and organs of the senses</i>					
70. Encephalitis (not including Encephalitis Lethargica) ... ..	..	2	1	2	1
71. Meningitis (not including Tuberculous Meningitis or Cerebrospinal Meningitis)	...	12	6	12	...
72. Locomotor Ataxia ... ..	...	3	...	3	...
73. Other affections of the Spinal Cord ... ..	...	1	...	1	...
74. Apoplexy ... ..	..	5	3	5	...
(a) Hæmorrhage	2	42	19	44	...
(b) Embolism ... ..	...	1	...	1	...
(c) Thrombosis ... ..	...	...	...	...	...
75. Paralysis—					
(a) Hemiplegia	4	32	2	36	4
(b) Other Paralyzes	2	13	2	15	1
76. General Paralyzes ... ..	...	3	2	3	...
77. Other forms of Mental Alienation ... ..	...	3	...	3	...
78. Epilepsy	2	90	8	92	3
79. Eclampsia, Convulsions (non-puerperal) 5 years or over... ..	...	8	1	8	...
80. Infantile convulsions ... ..	...	19	9	19	...
81. Chorea ... ..	...	1	...	1	...
82. A.—Hysteria ... ..	...	7	...	7	...
B.—Neuritis	1	34	...	35	2
C.—Neurasthenia ... ..	...	9	...	9	...
D.—Neuralgia	1	7	...	8	...
83. Cerebral softening ... ..	...	2	...	2	...
84. Other affections of the nervous System, such as paralysis Agitans ... ..	...	33	1	33	...
85. Affections of the Organs of Vision—					
(a) Disease of the Eye ... ..	...	92	...	92	1
(b) Conjunctivitis ... ..	...	86	...	86	...
(c) Trachoma ... ..	...	...	...	...	...
(d) Heratitis ... ..	...	41	..	41	2
(e) Tumours of the Eye ... ..	...	2	...	2	...
(f) Other affections of the Eye	3	228	...	231	4
(g) Cataract	1	36	...	37	1
86. Affections of the Ear or Mastoid Sinus	3	133	4	136	4
Other affections of the Ear ... ..	...	31	...	31	..
IV.— <i>Affections of the Circulatory System</i>					
87. Pericarditis ... ..	...	3	1	3	...
88. Acute Endocarditis or Myocarditis ... ..	...	1	1	1	...
(a) Ch. Endocarditis ... ..	...	15	10	15	...
89. Angina Pectoris ... ..	...	1	1	1	...
90. Other Diseases of the Heart ... ..	...	9	...	9	...
(a) Valvular—					
Mitral	3	87	22	90	...
Aortic ... ..	...	18	1	18	1
Tricuspid ... ..	...	1	...	1	...
Pulmonary ... ..	...	18	1	18	...
(b) Myocarditis	1	95	36	96	1
Total carried forward	181	10,618	696	10,799	173

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
Brought forward ...	181	10,618	696	10,799	173
IV.— <i>Affections of the Circulatory System.</i> —(Contd.)					
91. Diseases of the Arteries—					
(a) Aneurism ...	...	6	1	6	...
(b) Arterio-Scleriosis ...	2	60	1	62	2
(c) Other diseases ...	...	12	...	12	...
92. Embolism or Thrombosis (non-cerebral) ...	...	3	1	3	...
93. Diseases of the Veins—					
Hæmorrhoids ...	3	220	...	223	1
Varicose Veins ...	...	10	...	10	2
Phlebitis ...	...	11	1	11	...
94. Diseases of the Lymphatic System—					
Lymphagitis ...	...	80	1	80	4
Lymphadenitis, Bubo (non-specific) ...	5	161	...	166	3
95. Hæmorrhage of undetermined cause ...	...	...	...	...	...
96. Other affections of the Circulatory System	1	22	5	23	2
V.— <i>Affections of the Respiratory System</i>					
97. Diseases of the Nasal Passages—					
Adenoids ...	...	14	...	14	...
Polipus ...	...	33	...	33	...
Rhinitis ...	...	10	...	10	...
Coryza ...	...	3	...	3	...
Epistaxis ...	...	4	...	4	...
(Trachitis) ...	...	5	...	5	...
98. Affections of the Larynx—					
Laryngitis ...	1	16	1	17	...
99. Bronchitis ...	...	...	...	...	...
(a) Acute ...	2	526	25	528	5
(b) Chronic ...	5	198	17	203	1
100. Broncho-Pneumonia ...	2	124	58	126	2
101. Pneumonia ...	...	2	2	2	...
(a) Lobar ...	1	127	58	128	2
(b) Unclassified ...	8	222	73	230	6
102. Pleurisy, Empyema ...	2	55	8	57	1
103. Congestion of the Lungs ...	...	5	3	5	1
104. Gangrene of the Lungs ...	...	7	1	7	...
105. Asthma ...	2	240	5	242	5
106. Pulmonary Emphysema ...	...	17	...	17	1
107. Other affections of the Lungs—					
Pulmonary Spirochætosis ...	...	19	2	19	1
VI.— <i>Diseases of the Digestive System</i>					
108. A.—Diseases of teeth or Gums—					
Caries, Pyorrhæa, &c. ...	4	218	...	222	3
B.—Other affections of the Mouth—					
Stomatitis ...	...	27	1	27	1
Glossitis, &c. ...	...	11	1	11	1
109. Affections of the Pharynx or Tonsils—					
Tonsillitis ...	...	206	...	206	...
Pharyngitis ...	...	10	...	10	...
110. Affections of the Œsophagus ...	...	6	...	6	...
111. A.—Ulcer of the Stomach ...	1	82	2	83	3
B.—Ulcer of the Duodenum ...	1	48	4	49	...
112. Other affections of the Stomach—					
Gastritis ..	...	134	3	134	1
Dyspepsia, etc. ...	1	210	...	211	2
113. Diarrhœa and Enteritis—					
Under two years ...	...	271	46	271	5
114. Diarrhœa and Enteritis—					
Two years and over ...	3	662	124	665	10
Colitis ...	...	125	7	125	3
Ulceration ...	...	6	2	6	...
114a Sprue ...	...	1	...	1	...
115. Ankylostomiasis ...	20	3,890	150	3,910	64
Total carried forward ...	245	18,737	1,299	18,982	305

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
Brought forward	245	18,737	1,299	18,982	305
VI.— <i>Diseases of the Digestive System</i> —(Contd.)					
116. Diseases due to Intestinal Parasites—					
(a) Cestoda (Tænia) ... ..	...	4	...	4	...
(b) Trematodo (Flukes) ... ..	..	...	...	...	...
(c) Nematoda (other than Ankylostomia)—					
Ascaris	1	152	15	153	2
Trichocephalus dispar ... ..	...	...	..	..	...
Trichina ... ..	...	...	...	...	...
Dracunculus ... ..	...	...	...	...	...
Strongylus ... ..	...	1	...	1	...
Oxyuris ... ..	...	8	1	8	...
(d) Coccidia	2	63	9	65	1
(e) Other parasites ... ..	...	19	2	19	1
(f) Unclassified ... ..	...	25	...	25	1
117. Appendicitis	5	252	5	257	11
118. Hernia	2	159	8	161	1
119. A.—Affections of the Anus, Fistula, &c. ...	5	142	...	147	1
B.—Other affections of the Intestines—	...	34	...	34	1
Enteroptosis ... ..	...	14	...	14	...
Constipation	1	70	..	71	...
Obstruction of the intestine ... ..	...	2	2	2	...
120. Acute of yellow atrophy of the Liver ... ..	...	...	..	...	...
121. Hydatid of the Liver ... ..	...	...	...	...	...
122. Cirrhosis of the Liver ... ..	...	22	...	22	1
(a) Alcoholic ... ..	...	1	...	1	...
(b) Other forms ... ..	...	34	4	34	...
123. Biliary Calculus ... ..	...	2	...	2	...
124. Other affections of the Liver—					
Abscess	1	17	2	18	...
Hepatitis	3	55	4	58	3
Cholecystitis	3	60	5	63	...
Jaundice ... ..	...	10	3	10	...
125. Disease of the Pancreas ... ..	...	6	...	6	...
126. Peritonitis (of unknown cause) ... ..	...	20	11	20	...
127. Other affections of the Digestive System ...	5	38	8	43	1
VII.— <i>Disease of the Genito-urinary System</i> (non-Venereal)					
128. Acute Nephritis	12	645	100	657	12
129. Chronic	1	111	27	112	...
130. A.—Chyluria ... ..	...	1	...	1	...
B.—Schistosomiasis	1	91	...	92	3
131.—Other affections of the Kidneys—					
Pyelitis, etc. ... ..	...	35	1	35	1
132. Urinary Calculus	2	38	...	40	2
133. Diseases of the Bladder—					
Cystitis	3	136	2	139	...
Bilharzia ... ..	...	29	...	29	...
134. Disease of the Urethra ... ..	...	5	...	5	1
(a) Stricture ... ..	...	58	...	58	...
(b) Other	2	65	...	67	...
135. Disease of the Prostate—					
Hypertrophy ... ..	...	17	2	17	...
Prostatitis ... ..	...	13	1	13	1
136. Disease (non-Venereal) of the Genital					
Organs of Man ... ..	...	20	...	20	...
Epididymitis	1	28	...	29	2
Orchitis	1	68	...	69	2
Hydrocele	2	217	...	219	4
Ulcer of Penis	1	35	...	36	...
Paraphyneoses ... ..	...	5	...	5	...
Other affections	1	76	...	77	1
137. Cysts or other non-malignant Tumours of the Ovaries ... ..	...	12	2	12	...
Total carried forward	300	21,659	1,518	21,959	359

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
Brought forward ...	300	21,659	1,518	21,959	359
138. Salpingitis ...	...	31	2	31	...
Abscess of the Pelvis ...	2	57	3	59	4
Prolapsus uteri ...	...	1	...	1	...
139. Uterine Tumours (non-malignant) ...	...	11	...	11	...
140. Uterine Hæmorrhage (non-puerperal) ...	...	22	5	22	...
141. A.—Metritis ...	...	59	...	59	1
B.—Other affections of the Female					
Genital Organs ...	2	41	...	43	1
Displacements of Uterus... ..	3	61	..	64	...
Menorrhagia ...	...	1	...	1	...
Amenorrhœa ...	...	13	...	13	...
Dysmenorrhœa ...	...	5	...	5	...
Leucorrhœa ...	2	99	...	101	...
Fibroma of uterus ...	...	2	...	2	...
142. Diseases of the Breast (non-puerperal) ...	1	108	...	109	1
Mastitis ...	1	30	...	31	...
Abscess ...	...	...	...	...	...
VIII.— <i>Puerperal State</i>					
143. A.—Normal Labour ...	15	699	...	714	10
B.—Accidents of Pregnancy—					
(a) Abortion ...	3	103	...	106	...
(b) Ectopic Gestation ...	...	7	...	7	...
(c) Other accidents of Pregnancy ...	1	39	5	40	...
(d) Other accidents of parturition ...	...	8	3	8	...
144. Puerperal Hæmorrhage ...	...	...	...	...	...
145. Other accidents of Parturition ...	...	...	...	...	...
146. Puerperal Septicæmia ...	1	30	13	31	2
147. Phlegmasia Dolens ...	...	2	...	2	...
148. Puerperal Eclampsia ...	...	9	2	9	...
149. Sequelæ of Labour ...	...	22	4	22	...
150. Puerperal affections of the Breast ...	1	69	...	70	2
150a. Gestation ...	4	142	8	146	8
150b. Puerperal Insanity ...	...	2	...	2	...
IX.— <i>Affections of the Skin and Cellular Tissues</i>					
151. Gangrene ...	2	53	12	55	1
152. Boil—	...	48	...	48	...
Carbuncle ..	3	60	1	63	1
153. Abscess—	25	1,355	11	1,380	39
Whitlow ...	17	216	2	233	7
Cellulitis ...	10	353	15	363	11
154. A.—Tinea ...	...	...	...	...	...
B.—Scabies ...	4	377	...	381	3
155. Other Disease of the Skin—	5	87	...	92	11
Erythema ...	...	1	...	1	...
Urticaria ...	1	4	...	5	1
Eczema ...	3	96	...	99	3
Herpes ...	...	5	...	5	1
Ulcers ...	1	248	...	249	1
Psoriasis ...	...	11	...	11	...
Elephantiasis ...	1	20	...	21	3
Mycosis ...	...	2	...	2	...
Myiasis ...	...	1	1	1	...
Dermatitis ...	...	2	...	2	1
Corns ...	...	3	...	3	...
Chigœs ...	...	...	...	...	...
Cutaneous Leishmaniasis ...	...	...	...	...	...
Paronchia ...	...	1	...	1	...
Callosity ...	...	1	...	1	...
Sabaceous Lyst ...	...	1	...	1	...
Leucoderma ...	...	5	...	5	...
Granulomata ...	...	8	...	8	...
Impetigo ...	...	73	...	73	...
Total carried forward ..	408	26,363	1,605	26,771	471

DISEASES				Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
					Admissions	Deaths		
Brought forward ...				408	26,363	1,605	26,771	471
X.— <i>Diseases of the Bones and Organs of Locomotion (other than Tuberculous)</i>								
156. Disease of Bones—								
Osteitis ...	...	...	...	...	36	1	36	3
Caries ...	...	...	...	2	9	...	11	...
157. Disease of Joints—								
Arthritis ...	...	...	...	3	151	8	154	2
Synovitis ...	...	...	...	1	40	...	41	..
158. Other Diseases of Bones or Organs of								
Locomotion ...	...	...	...	3	66	2	69	6
(b) Periostitis ...	...	...	...	...	4	...	4	...
XI.— <i>Malformations</i>								
159. Malformations—								
Hydrocephalus ...	...	...	...	...	2	...	2	...
Hypospadias ...	...	...	...	...	1	...	1	...
Spina Bifida &c. ...	...	...	...	...	...	...	...	...
Imperforate Anus ...	...	...	...	...	5	2	5	1
Genu Valgum ...	...	...	...	...	1	...	1	...
Mole ...	...	...	...	...	1	...	1	...
Harelip ...	...	...	...	...	3	...	3	...
XII.— <i>Diseases of Infancy</i>								
160. Congenital Debility ...	...	...	...	...	40	33	40	...
161. Premature Birth ...	...	...	...	...	49	31	49	...
162. Other affections of Infancy ...	...	...	...	...	14	7	14	...
163. Infant neglect (infants of three months or over) ...				...	1	1	1	...
(a) Marasmus ...	...	...	...	...	3	2	3	...
(b) Not specified ...	...	...	...	8	57	...	65	...
XIII.— <i>Affections of Old Age</i>								
164. Senility ...				1	128	20	129	1
Senile Dementia ...	...	...	...	...	59	14	59	...
Debility ...	...	...	...	...	14	3	14	...
Menopause ...	...	...	...	...	2	...	2	...
XIV.— <i>Affections produced by External Causes</i>								
165. Suicide by Poisoning ...				...	7	..	7	...
166. Corrosive Poisoning (intentional) ...	...	...	...	...	2	1	2	...
167. Suicide by Gas Poisoning ...	...	...	...	...	...	...	...	...
168. Suicide by Hanging or Strangulation ..	...	...	...	...	...	...	...	...
169. Suicide by Drowning ...	...	...	...	...	...	...	...	...
170. Suicide by Firearms ...	...	...	...	...	...	...	...	...
171. Suicide by cutting or stabbing Instruments.	...	...	...	...	...	...	...	...
172. Suicide by jumping from a height ...	...	...	...	...	...	...	...	...
173. Suicide by crushing ...	...	...	...	...	...	...	...	...
174. Other Suicides ...	...	...	...	...	...	...	...	...
175. Food Poisoning—								
Botulism ...	...	...	...	...	...	...	...	...
176. Attacks of poisonous—								
Monkey Bite ...	...	...	...	...	1	...	1	...
Dog Bite ...	...	...	...	...	1	...	1	...
Snake Bite ...	...	...	...	...	...	...	...	...
Insect Bite ...	...	...	...	...	...	...	...	...
Total ...				426	27,060	1,730	27,486	484

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
Brought forward ...	426	27,060	1,730	27,486	484
177. Other accidental Poisonings ...	...	4	...	4	...
178. Burns (by fire) ..	2	69	15	71	4
179. Burns (other than fire) ...	...	20	5	20	1
180. Suffocation (accidental) ...	...	...	...	...	...
181. Poisoning by Gas (accidental) ...	...	...	...	...	...
182. Drowning (accidental) ...	...	...	...	...	...
183. Wounds [by Firearms, war excepted] ...	...	9	4	9	1
184. Wounds [by cutting or stabbing Instru- ments] ...	8	433	1	441	2
(b) by blunt instruments ...	9	528	6	537	5
185. Wounds [by fall] ...	...	123	3	123	1
186. Wounds [in mines or quarries] ...	...	...	...	...	...
187. Wounds [by machinery] ...	1	14	...	15	...
188. Wounds [crushing <i>e. g.</i> railway acci- dents, &c.] ...	...	43	9	43	...
189. Injuries inflicted by animals, Bites, Kicks, etc. ...	3	76	...	79	3
190. Wounds inflicted on Active Service ...	...	...	...	...	...
191. Executions of civilians by belligerents ...	...	...	...	...	...
192. A—Over Fatigue ...	...	5	...	5	...
B—Hunger or Thirst ...	...	...	...	...	...
193. Exposure to cold, Frost bite, &c, ...	...	1	...	1	...
194. Exposure to heat— Heatstroke ...	...	...	...	...	...
Sunstroke ...	...	2	...	2	...
195. Lightning ...	...	...	...	...	...
196. Electric Shock ...	...	...	...	...	...
197. Murder by Firearms ...	...	...	...	...	...
198. Murder by cutting or stabbing Instruments	...	...	...	...	...
199. Murder by other means ...	...	...	...	...	...
200. Infantile Murder (of an infant under one year) ...	...	...	...	...	...
201. A—Dislocation ...	1	35	...	36	...
B—Sprain ...	...	27	...	27	...
C—Fracture ...	14	303	13	317	18
202. Other external Injuries ...	4	508	...	512	12
203. Death by Violence of unknown cause ...	...	...	...	...	...
XV.— <i>Ill-Defined Diseases</i>					
204. Sudden Deaths [cause unknown]—					
205. A,—Diseases not already specified or ill- defined—	28	390	59	418	43
Ascites ...	1	62	...	63	2
Œdema ...	...	14	...	14	1
Asthenia ...	...	7	1	7	1
Shock ...	...	4	2	4	...
Hyperpyrexia ...	...	9	...	9	...
Septicaemia ...	...	4	4	4	...
Diarrhoea ...	...	6	...	6	...
Debility ...	...	14	1	14	...
B—Malingering ...	1	81	...	82	1
Total ...	498	29,851	1,853	30,349	579

SUMMARY

DISEASES	Remaining in Hospital at end of 1930	Yearly Total		Total cases treated	Remaining in Hospital at end of 1931
		Admissions	Deaths		
I.—Epidemic, Endemic and Infectious Diseases	137	8,469	475	8,607	132
II.—General Diseases not mentioned above ...	21	925	90	945	16
III.—Affections of the Nervous System and Organs of the Senses ...	19	976	58	995	23
IV.—Affections of the Circulatory System ...	15	833	83	848	16
V.—Affections of the Respiratory System ...	23	1,627	256	1,650	25
VI.—Diseases of the Digestive System ...	58	7,117	416	7,175	117
VII.—Diseases of the Genito-Urinary System (<i>non-venereal</i>) ...	38	2,253	150	2,291	37
VIII.—Puerperal State ...	25	1,132	35	1,157	22
IX.—Affections of the Skin and Cellular Tissues	72	3,031	42	3,103	83
X.—Diseases of Bones and Organs of Locomo- tion (<i>other than Tuberculous</i>) ...	9	306	11	315	11
XI.—Malformations ...	...	13	2	13	1
XII.—Diseases of Infancy ...	8	164	74	172	...
XIII.—Affections of Old Age ...	1	203	37	204	1
XIV.—Affections produced by external Causes...	42	2,211	57	2,253	47
XV.—Ill-Defined Diseases ...	30	591	67	621	48
TOTAL ...	498	29,851	1,853	30,349	579

RETURN OF BIRTHS

				Number	Deaths
Born alive at term ...	...	...	...	608	15
Prematurely born ...	...	...	...	54	36
Still born ..	...	...	...	147	147
Total ...	...	...	...	809	198

Percentage Classification
of

TOTAL DEATHS (15.467)

(From Registrar General's Report)

Infectious & Parasitic Diseases	(44.3)
Respiratory System	(14.4)
Digestive System	(11.2)
Early Infancy	(6.7)
Non-Venereal Diseases of the Genito-Urinal System	(5.6)
Ill-Defined	(4.8)
Other Diseases	(3.6)
Diseases, Nervous System	(3.5)
Old-Age	(2.9)
Circulatory System	(1.8)
Puerperal State	(1.2)

Percentage Classification
of Deaths due to

INFECTIOUS & PARASITIC DISEASES

(From Registrar General's Report)
Total Deaths: 6,850

Malaria	(58.2)
Dysentery	(11.8)
Whooping Cough	(9.2)
Tuberculosis	(7.4)
Influenza	(5.1)
Ankylostomiasis	(4.3)
Other Diseases	(4.0)

Percentage Classification of
Diseases in Out-Patients treated at

PUBLIC DISPENSARIES

(Total Number: 178,246)

Epidemic, Endemic & Infectious Diseases	(49.7) Group I
Diseases of the Digestive System	(25.8)
Affections of the skin and Cellular Tissues	(7.3)
General Diseases not mentioned in Group I	(4.0)
Affections of the Respiratory System	(3.9)
Affections of the Nervous System	(2.7)
Genito-Urinary System	(2.1)
Affections due to x. Causes	(2.1)
Circulatory System	(1.4)
Other Diseases	(1.0)

Return of Surgical Operations			
Operations		Number	Deaths
Tumours	...	47	5
Evacuation of abscesses	...	2,357	55
Operations on :—			
Blood Vessels	...	11	...
Lymphatic Glands	...	169	...
Skin and Subcutaneous Tissues	...	421	3
Bones	...	134	3
Nerves	...	4	...
Joints	...	54	3
Muscles and Tendons	...	63	1
Skull and Brain	...	8	4
Eye	...	222	1
Ear	...	80	1
Head and Face	...	54	2
Chest	...	36	1
Abdominal Cavity	...	436	32
Spleen	...	2	...
Rectum and Anus	...	177	5
Urinary system	...	94	4
Male Generative Organs	...	475	2
Female do.	...	252	11
Amputation	...	99	4
Obstetric Operations	...	70	2
Other Operations	...	1,152	7
Total	...	6,417	146

APPENDIX IX

RETURN OF DISEASES (*Out Patients*) FOR THE YEAR 1931.

Diseases	Cases		Attendances	
	Male	Female	Male	Female
I.— <i>Epidemic, Endemic and Infectious Diseases</i>				
1. Enteric Group :—				
(a) Typhoid Fever	4	2	4	2
(b) Paratyphoid A.	...	...	...	...
(c) Paratyphoid B.	...	...	...	...
(d) Type not defined	...	...	...	...
2. Typhus	...	...	...	...
3. Relapsing Fever	...	...	...	...
4. Undulant Fever	...	...	...	...
5. Malaria	1,996	2,592	3,664	3,863
(a) Tertian	13,865	15,978	15,917	17,631
(b) Quartan	4,890	6,095	6,071	7,049
(c) Aestivo-autumnal	1,240	1,413	1,368	1,546
(d) Cachexia	1,417	1,456	1,827	1,897
(e) Blackwater	2	...	2	...
(f) Quotidian	5,785	6,210	7,391	7,374
6. Smallpox—				
Alastrim	...	...	...	...
7. Measles	...	...	...	...
8. Scarlet Fever	...	...	...	...
9. Whooping Cough	1,381	1,499	1,750	1,942
10. Diphtheria	1	...	1	...
11. Influenza	6,411	6,088	7,703	7,651
12. Miliary Fever	...	...	...	...
13. Mumps	9	3	9	...
14. Cholera	...	...	...	...
15. (a) Epidemic diarrhoea	292	351	340	426
(b) Diarrhoea	52	58	56	6
16. Dysentery	33	17	35	29
(a) Amœbic	2,627	1,941	4,078	2,913
(b) Bacillary	316	206	535	388
(c) Undefined or due to other causes	1,021	704	1,303	974
(d) Chronic	3	1	3	1
17. Plague—				
(a) Bubonic	...	...	...	...
(b) Pneumonic	...	...	...	...
(c) Septicæmic	...	...	...	...
(d) Undefined	...	...	...	...
Total carried over	41,345	44,614	52,057	53,751

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward ...	41,345	44,614	52,057	53,751
<i>I.—Epidemic Endemic and Infectious Diseases (Contd.)</i>				
18. Yellow Fever ...	...	...	...	...
19. Spirochaetosis ictero-haemorrhagica ...	...	...	...	...
20. Leprosy ...	3	1	5	1
21. Erysipelas ...	19	17	20	17
22. Acute-Poliomyelitis ...	...	...	...	...
23. Encephalitis Lethargica ...	...	...	...	...
24. Epidemic Cerebo-spinal Fever ...	...	...	...	...
25. Other Epidemic Diseases—				
(a) Rubeola (German Measles) ...	...	...	...	...
(b) Varicella (Chicken pox) ...	1	2	1	2
(c) Kala-azar ...	...	...	...	...
(d) Phlebotomus ...	...	...	...	...
(e) Dengue ...	...	...	...	...
(f) Epidemic Dropsy ...	...	...	...	...
(g) Yaws ...	...	...	...	...
(h) Trypanosomiasis ...	...	...	...	...
26. Glanders ...	1	3	1	4
27. Anthrax ...	32	20	46	21
28. Rabies ...	...	...	...	...
29. Tetanus ...	4	1	4	1
30. Mycosis ...	4	...	4	...
31. Tuberculosis, Pulmonary and Pharyngeal ...	630	524	1,698	1,144
32. Tuberculosis of the Meninges or Central Nervous System ...	...	...	...	...
33. Tuberculosis of the Intestine or Peritoneum ...	8	7	11	11
34. Tuberculosis of the Vertebral Column ...	1	...	1	...
35. Tuberculosis of Bones and Joints ...	19	17	22	24
36. Tuberculosis of other organs ...	...	...	...	...
(a) Skin or Subcutaneous Tissue (Lupus) ...	18	7	24	11
(b) Bones ...	2	1	2	1
(c) Lymphatic System ...	4	4	5	4
(d) Genito-urinary ...	4	6	4	6
(e) Other Organs ...	1	...	3	...
37. Tuberculosis disseminated—				
(a) Acute ...	6	8	6	8
(b) Chronic ...	4	2	5	4
38. Syphilis—				
(a) Primary ...	49	35	107	70
(b) Secondary ...	51	29	87	53
(c) Tertiary ...	140	52	252	128
(d) Hereditary ...	50	21	52	28
(e) Period not indicated ...	99	53	683	437
39. Soft Chancre ...	139	12	529	14
40. A.—Gonorrhoea and its compli- cations ...	221	82	1,460	96
B.—Gonorrhoeal Ophthalmia ...	7	3	10	5
C.—Gonorrhoeal Arthritis ...	3	6	15	8
D.—Gonorrhoeal Venereum ...	...	...	...	...
41. Septicæmia ...	...	1	...	1
42. Other Infectious Diseases—				
(a) Trypanosomiasis ...	...	...	...	...
(b) Filariasis ...	40	48	51	54
<i>II.—General Diseases not mentioned above</i>				
43. Cancer or other malignant Tumours of the Buccal Cavity ...	6	...	6	...
44. Cancer or other malignant Tumours of the Stomach or Liver ...	...	...	...	...
45. Cancer or other malignant Tumours of the Peritoneum Intestines Rectum ...	...	...	...	...
46. Cancer or other malignant Tu- mours of the Female Genital Organs ...	...	2	...	3
47. Cancer or other malignant Tumours of the Breast ...	...	...	...	...
48. Cancer or other malignant Tumours of the Skin ...	...	...	...	...
Total carried over ...	42,911	45,578	57,171	55,907

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward	... 42,911	45,578	57,171	55,907

II.—General Diseases not mentioned above.—(Contd.)

49. Cancer or other malignant Tumours of Organs not specified	1	...	2	...
50. Tumours non-malignant	3	2	3	2
51. Acute Rheumatism	1,104	1,338	1,309	1,740
52. Chronic Rheumatism	671	689	855	886
53. Scurvy (including Barlow's Disease)	1	...	1	...
54. Pellagra	...	1	...	1
55. Beri-Beri	9	1	9	1
56. Rickets	11	3	11	3
57. Diabetes (not including Insipidus)	36	40	50	52
58. Anæmia	302	362	371	394
(a) Pernicious	130	175	202	270
(b) Other Anæmias and Chlorosis	623	804	737	957
(c) Debility	255	18	265	35
59. Diseases of the Pituitary Body	...	...	...	...
60. Diseases of the Thyroid Gland—				
(a) Exophthalmic Goitre	...	...	...	...
(b) Other diseases of the Thyroid Gland, Myxœdema	...	1	...	1
61. Diseases of the Para-Thyroid Glands	...	...	...	...
62. Diseases of the Thymus	...	...	...	...
63. Diseases of the Supra-Renal Glands	...	...	...	...
64. Diseases of the Spleen	183	124	255	190
65. Leukæmia—				
(a) Leukæmia	...	1	...	1
(b) Hodgkin's Disease	...	1	...	1
66. Alcoholism	...	...	...	...
67. Chronic poisoning by mineral substances (lead, mercury, &c.)	...	...	...	...
68. Chronic poisoning by organic substances (Morphia Cocaine &c.)	...	...	...	...
69. Other General Diseases—	98	195	125	204
Auto-intoxication	...	...	...	...
Purpura Hæmorrhagica	1	2	1	2
Hæmophilia	...	...	...	...
Diabetes Insipidus	4	7	4	7

III.—Affections of the Nervous System and organs of the senses

70. Encephalitis not including Encephalitis Lethargica	1	...	1	...
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	...	...	...	...
72. Locomotor Ataxia	2	...	2	...
73. Other affections of the Spinal Cord	62	50	93	73
74. Apoplexy—				
(a) Hæmorrhage	23	19	33	24
(b) Embolism	...	2	...	2
(c) Thrombosis	2	...	2	...
75. Paralysis—				
(a) Hemiplegia	34	13	41	17
(b) Other Paralyzes	20	20	21	26
76. General Paralysis of the Insane	...	...	...	...
77. Other forms of Mental Alienation	...	1	...	1
78. Epilepsy	162	127	235	191
79. Eclampsia, Convulsion (non-puerperal) 5 years or over	5	2	7	2
80. Infantile Convulsions	143	120	155	124
81. Chorea	...	...	...	...
82. A.—Hysteria	7	36	9	44
B.—Neuritis	83	74	90	92
C.—Neurasthenia	47	40	64	46
D.—Neuralgia	52	40	61	44
E.—Sciatica	8	12	9	12
83. Cerebral Softening	1	1	1	1
84. Other affections of the Nervous System, such as Paralysis Agitans	309	230	380	351
Total carried over	... 47,304	50,129	62,575	61,704

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward	47,304	50,129	62,575	61,704
III.— <i>Affections of the Nervous System and organs of the senses.</i> —(Contd.)				
85. Affections of the Organs of Vision	1	2	2	2
(a) Diseases of the Eye	110	112	137	139
(b) Conjunctivitis	520	452	667	575
(c) Trachoma	...	...	...	...
(d) Tumours of the Eye	7	23	8	26
(e) Other affections of the Eye	373	347	487	508
(f) Vertigo	1	...	1	...
(g) Nervousness	...	1	...	1
86. Affections of the Ear or Mastoid Sinus	566	530	638	667
IV.— <i>Affections of the Circulatory System</i>				
87. Pericarditis	6	8	6	10
88. Acute Endocarditis or Myocarditis	33	89	48	120
89. Angina Pectoris or Myocarditis	2	5	2	5
90. Other Diseases of the Heart	36	46	41	60
(a) Valvular	33	21	42	26
Mitral	193	207	236	275
Aortic	33	19	37	28
Tricuspid	...	...	...	...
Pulmonary	...	...	...	...
(b) Myocarditis	74	104	84	130
91. Diseases of the Arteries—				
(a) Aneurysm	...	...	...	...
(b) Arterio-Sclerosis	294	274	366	342
(c) Other Diseases	41	54	56	79
92. Embolism or Thrombosis (non-cerebral)	...	...	...	...
93. Diseases of the Veins—				
Hæmorrhoids	289	108	322	126
Varicose Veins	27	34	27	39
Phlebitis	13	9	13	9
94. Diseases of the Lymphatic System-Lymphangitis	46	51	72	57
Lymphadenitis, Bubo (non-specific)	69	43	82	57
95. Hæmorrhage of undetermined cause	22	14	22	14
96. Other affections of the Circulatory System	53	103	73	117
V.— <i>Affections of the Respiratory System</i>				
97. Diseases of the Nasal Passages	1	1	2	3
Adenoids	1	1	1	1
Polypus	8	5	11	5
Rhinitis	53	45	56	49
Coryza	129	177	206	219
98. Affections of the Larynx	1	1	3	3
Laryngitis	112	92	137	110
99. Bronchitis	157	160	178	173
(a) Acute	1,273	1,604	1,568	1,844
(b) Chronic	800	443	1,018	586
100. Broncho-Pneumonia	51	48	53	48
101. Pneumonia	98	55	118	68
(a) Lobar	73	31	78	33
(b) Unclassified	62	13	62	13
102. Pleurisy, Emphysema	50	27	51	28
103. Congestion of the Lungs	22	32	24	32
104. Gangrene of the Lungs	1	...	1	...
105. Asthma	798	500	1,167	674
106. Pulmonary Emphysema	7	1	7	1
107. Other affections of the Lungs—				
Pulmonary Spirochaetosis	23	16	27	20
VI.— <i>Diseases of the Digestive System</i>				
108. A. Diseases of teeth or Gums—				
Caries, Pyorrhæa, &c.	3,783	2,911	4,166	3,219
B. Other affections of the Mouth—				
Stomatitis	266	237	327	295
Glossitis, &c.	49	26	55	37
109. Affections of the Pharynx or				
Tonsils	4	2	7	4
Tonsillitis	134	240	169	285
Pharyngitis	61	85	70	101
110. Affections of the Oesophagus...	2	1	2	1
Total carried over	58,165	59,539	75,608	72,968

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward ...	58,165	59,539	75,608	72,968
VI.— <i>Diseases of the Digestive System.</i> —(Contd.)				
111. A.—Ulcer of the Stomach ...	63	24	76	32
B.—Ulcer of the Duodenum ...	3	1	3	1
112. Other affections of the Stomach ...	2	1	4	2
Gastritis ...	866	1,081	1,163	1,444
Dyspepsia ...	1,357	1,238	1,754	1,685
113. Diarrhoea and Enteritis—				
Under two years ...	495	607	647	715
114. Diarrhoea and Enteritis ...	10	26	15	30
Two years and over ...	1,337	1,011	1,702	1,304
Colitis ...	131	100	155	134
Ulceration ...	...	...	...	...
114a Sprue ...	...	...	...	...
115. Ankylostomiasis ...	10,440	8,673	14,506	13,096
116. Diseases due to Intestinal				
Parasites ...	87	150	120	180
(a) Cestoda (Tænia) ...	23	15	32	32
(b) Trematodo (Flukes) ...	...	...	...	...
(c) Nematoda (other than Ankylostoma) ...	...	...	...	...
Ascaris ...	2,839	2,721	3,774	3,771
Trichocephalus dispar ...	...	...	...	...
Trichina ...	...	...	...	...
Dracunculus ...	...	...	...	...
Strongylus ...	...	...	...	...
Oxyuris ...	127	143	294	279
(d) Coccidia ...	...	...	...	...
(e) Other parasites ...	97	103	148	147
(f) Unclassified ...	181	246	190	257
117. Appendicitis ...	68	78	71	87
118. Hernia ...	122	28	136	29
119. A.—Affections of the Anus, Fistula, &c. ...	98	76	113	103
B.—Other affections of the Intestines—				
Enteroptosis ...	...	...	...	...
Constipation ...	959	1,224	1,218	1,535
120. Acute yellow atrophy of the Liver ...	44	10	47	15
121. Hydatid of Liver ...	...	...	...	...
122. Cirrhosis of the Liver ...	27	15	31	17
(a) Alcoholic ...	10	...	14	...
(b) Other Forms ...	...	2	...	2
123. Biliary Calculus ...	2	3	3	3
124. Other affections of the Liver—				
Abscess ...	...	7	5	7
Hepatitis ...	195	151	312	230
Cholecystitis ...	19	25	23	24
Jaundice ...	38	34	48	38
125. Diseases of the Pancreas ...	...	...	...	...
126. Peritonitis (of unknown cause) ...	11	...	11	...
127. Other affections of the Digestive System ...	418	223	470	275
VII.— <i>Diseases of the Genito-urinary System (non-Venereal)</i>				
128. Acute Nephritis ...	382	247	494	452
129. Chronic ...	156	108	212	142
130. A.—Chyluria ...	...	...	...	...
A.—Schistosomiasis ...	61	42	142	91
B.—Hæmaturic ...	1	...	1	...
131. Other affections—				
Pyelitis, etc. ...	28	46	32	53
132. Urinary Calculus ...	9	...	9	...
133. Diseases of the Bladder—				
Cystitis ...	234	147	336	197
134. Diseases of the Urethra—				
(a) Stricture ...	25	1	30	1
(b) Other ...	22	3	22	3
135. Diseases of the Prostate				
Hypertrophy ...	...	...	...	...
Prostatitis ...	1	...	1	...
136. Diseases (non-Venereal) of the Genital Organs of Man—				
Epididymitis ...	2	...	3	...
Orchitis ...	153	...	195	...
Hydrocele ...	226	...	259	...
Ulcer of Penis ...	22	...	30	...
Total carried over ...	79,561	78,149	104,459	99,381

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward ...	79,561	78,149	104,459	99,381
VII.— <i>Diseases of the Geneto-urinary System (non-Veneral).—(Contd.)</i>				
137. Cysts or other non-malignant Tumours of the Ovaries ...	...	6	...	6
138. Salpingitis ...	...	53	...	83
Abscess of the Pelvis ...	...	...	...	...
139. Uterine Tumours non-malignant ...	...	...	...	...
140. Uterine Hæmorrhage non-puerperal ...	...	156	...	198
141. A.—Metritis ...	...	32	...	32
B.—Other affections of the Female Genital Organs ...	...	102	...	139
Displacements of Uterus ...	...	99	...	105
Amenorrhœa ...	...	304	...	403
Dysmenorrhœa ...	...	280	...	389
Leucorrhœa ...	...	379	...	795
142. Diseases of the Breast (non-puerperal) ...	...	6	...	10
Mastitis ...	...	78	...	100
Abscess ...	15	269	18	553
Menopause ...	...	39	...	41
VIII.— <i>Puerperal State</i>				
143. A.—Normal Labour and Pregnancy ...	...	302	...	307
B.—Accidents of Pregnancy ...	...	23	...	30
(a) Abortion ...	...	...	...	...
(b) Ectopic Gestation ...	...	...	...	...
(c) Other accidents of Pregnancy ...	...	14	...	14
144. Puerperal Hæmorrhage ...	...	...	...	...
145. Other accidents of Parturition ...	...	44	...	47
146. Puerperal Septicæmia ...	...	...	...	...
147. Phlegmasia Dolens ...	...	...	...	...
148. Puerperal Eclampsia ...	...	...	...	...
149. Sequelæ of Labour ...	...	...	...	...
150. Puerperal affection of the Breast ...	...	11	...	11
IX.— <i>Affections of the Skin and Cellular Tissues</i>				
151. Gangrene ...	5	3	6	4
152. Boil ...	122	63	157	84
Carbuncle ...	200	118	246	144
153. Abscess ...	208	285	288	417
Whitlow ...	370	257	980	487
Cellulitis ...	2,863	1,298	4,389	1,909
Furunculus ...	...	5	...	5
154. A.—Tinea ...	11	16	11	16
B.—Scabies ...	2,694	1,891	3,548	2,469
155. Other Diseases of the Skin ...	386	346	424	388
Erythema ...	30	22	39	25
Urticaria ...	56	49	74	57
Eczema ...	558	565	852	839
Herpes ...	54	46	89	72
Psoriasis ...	64	45	80	53
Elephantiasis ...	29	23	33	29
Myiasis ...	7	1	12	2
Chigoes ...	1	...	1	...
Cutaneous Leishmaniasis ...	...	...	...	...
Pediculosis ...	1	...	1	...
Dermatitis ...	4	...	4	...
Ulcers ...	203	92	249	167
Impetigo ...	37	28	39	42
Leucoderma ...	2	4	6	5
X.— <i>Diseases of the Bones and Organs of Locomotions (other than Tuberculous)</i>				
156. Diseases of Bones ...	2	1	2	1
Osteitis ...	2	1	2	2
157. Diseases of Joints—				
Arthritis ...	153	101	192	127
Synovitis ...	40	28	48	33
158. Other Diseases of Bones or Organs of Locomotion ...	24	16	23	15
Total carried over ...	87,702	85,650	116,272	110,036

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward ...	87,702	85,650	116,272	110,036
XI.— <i>Malformations</i>				
159. Malformations—				
Hydrocephalus ...	...	...	...	...
Hypospadias ...	...	...	...	...
Spina Bifida, &c. ...	...	...	...	...
XII.— <i>Diseases of Infancy</i>				
160. Congenital Debility ...	28	36	36	39
161. Premature Birth... ...	...	...	...	...
162. Other affections of Infancy ...	4	4	6	5
163. Infant Neglect (infants of three months or over) ...	4	2	4	2
XIII.— <i>Affections of Old Age</i>				
164. Senility—				
Senile Dementia ...	99	100	116	124
Debility ...	17	18	17	18
XIV.— <i>Affections produced by External Causes</i>				
165. Suicide by Poisoning ...	...	...	...	...
166. Corrosive Poisoning (intentional) ...	...	...	...	...
167. Suicide by Gas Poisoning ...	...	...	...	...
168. Suicide by Hanging or Strangulation ...	...	...	...	...
169. Suicide by Drowning ...	...	...	...	...
170. Suicide by firearms ...	...	...	...	...
171. Suicide by cutting or stabbing instruments ...	...	...	...	...
172. Suicide by jumping from a height ...	...	...	...	...
173. Suicide by crushing ...	...	...	...	...
174. Other Suicides ...	...	...	...	...
175. Food Poisoning—				
Botulism ...	...	...	...	...
176. Attack of Poisonous—				
Snake Bite ...	...	...	...	...
Insect Bite ...	4	1	4	1
177. Other accidental Poisonings ...	...	...	...	...
178. Burns (by fire) ...	71	59	108	97
179. Burns (other than by fire) ...	13	5	17	5
180. Suffocation (accidental) ...	...	...	...	...
181. Poisoning by Gas (accidental) ...	...	...	...	...
182. Drowning (accidental) ...	...	...	...	...
183. Wounds (by firearms, war ex- cepted) ...	7	23	7	23
184. Wounds (by cutting or stabbing Instruments) ...	635	243	889	370
185. Wounds (by fall) ...	274	131	369	175
186. Wounds (in mines or Quarries) ...	...	...	...	...
187. Wounds (by machinery) ...	...	...	...	...
188. Wounds by crushing <i>e.g.</i> railway accidents, &c. ...	...	...	...	...
189. Injuries inflicted by animals, Bites, Kicks, etc. ...	200	48	284	80
190. Wounds inflicted on Active Service ...	...	...	...	...
191. Executions of civilians by belligerents ...	...	...	...	...
192. A.—Over Fatigue ...	...	...	...	...
B.—Hunger, Thirst ...	...	...	...	...
193. Exposure to cold, Frost bite &c. ...	...	...	...	...
194. Exposure to heat—				
Heatstroke ...	...	...	...	...
Sunstroke ...	1	1	1	1
195. Lightning Stroke... ...	...	...	...	...
196. Electric, Shock ...	...	...	...	...
197. Murder by Firearms ...	...	...	...	...
198. Murder by cutting or stabbing instruments ...	...	...	...	...
199. Murder by other means ...	...	...	...	...
Total carried over ...	89,059	86,321	118,130	110,976

Diseases	Cases		Attendances	
	Male	Female	Male	Female
Brought forward	89,059	86,321	118,130	110,976
XIV.—Affections produce by External Causes.—(Contd.)				
200. Infanticide (Murder of an infant under one year)	...	...	...	...
201. A.—Dislocation	26	14	28	14
B.—Sprain	70	24	70	24
C.—Fracture	116	113	126	117
202. Other external Injuries	1,188	538	2,413	748
203. Death by Violence of Unknown cause	...	...	...	...

XV.—Ill-Defined Diseases

204. Sudden Deaths (cause unknown)	...	...	...	...
205. A.—Diseases not already specified or ill-defined	225	49	225	49
Ascites	51	32	60	33
Edema	69	47	85	63
Asthenia	13	4	13	
Shock	...	...	...	...
Hyperpyrexia	15	10	19	12
Flatulence	3	3	3	
Intestinal colic	6	4	6	4
Head ache	5	7	5	7
Giddiness	...	2	...	2
Debility undiagnosed	37	180	37	180
B.—Malingering	14	1	14	1
Total	90,897	87,349	121,234	112,237

SUMMARY

I.—Epidemic, Endemic and Infectious Diseases	42,905	45,576	57,165	55,904
II.—General Diseases not mentioned above	3,438	3,766	4,206	4,750
III.—Affections of the Nervous System and Organs of the Senses	2,539	2,254	3,144	2,968
IV.—Affections of the Circulatory System	1,264	1,189	1,529	1,494
V.—Affections of the respiratory System	3,720	3,252	4,768	3,910
VI.—Diseases of the Digestive System	24,373	21,518	31,881	29,41
VII.—Diseases of the Genito-Urinary System (non-venereal)	1,337	2,397	1,784	3,793
VIII.—Puerperal State	...	394	...	409
IX.—Affections of the Skin and Cellular Tissues	7,905	5,157	11,528	7,214
X.—Diseases of Bones and Organs of Locomotion (other than Tuberculous)	221	147	267	178
XI.—Malformations				
XII.—Diseases of Infancy	36	42	46	46
XIII.—Affections of Old Age	116	118	133	142
XIV.—Affections produced by external Causes	2,605	1,200	4,316	1,655
XV.—Ill-Defined Diseases	438	339	467	358
Total	90,897	87,349	121,234	112,237

APPENDIX X

DIET SCALE FOR GENERAL HOSPITALS

Articles		European	Creole	Indian	Sick	Children below 15 years
Beef ...	grms.	250	200	...	...	...
Fish (Fresh) ...	"	250	200	200	...	...
Bread ...	"	250	125	100	150	...
Potatoes ...	"	200	..	...	...	...
Rice (1) ...	"	30	400	400	...	...
Butter ...	"	20	15	15	...	...
Milk ...	centil.	25	25	25	100	...
Vegetables (2) ..	grms.	200	200	200	...	...
Salt Fish ...	"	...	..	30	...	...
Dholl ...	"	...	...	50	...	...
Oil ...	"	...	10 or }	10	...	...
Fat ...	"	30	10 }	...	...	...
Tea ...	"	10	8	8	8	...
Coffee (raw) ...	"	20	20	20	20	...
Sugar ...	"	30	30	30	30	...
Salt ...	"	10	10	10	...	...
Condiment (3) ...	"	10	5	5	...	...

$\frac{3}{4}$ or $\frac{1}{2}$ or $\frac{1}{4}$ of normal or sick diet, according to apparent age.

REMARKS.—(1) Madagascar, Patna or Mooghy rice may be allowed in the European diet.

(2) Vegetables to be made up as follows :—

Vegetables ...	grms.	170
Potherbs ...	"	20
Pommes d'Amour ...	"	10

(3) Condiments to consist of Curry Powder, Tamarind, Garlic, Mustard, Allspice, in such combination and proportion as will not exceed the quantity allowed as condiment.

2. The normal diets cannot be allowed any extra free.

3. The Sick Diet may be allowed one to three of the following extras :—

Chicken ...	grms.	250	} 5 grms. of fat and 5 grms. of salt or oil allowed with any of these six items for cooking.
Fish ...	"	200	
Beef ...	"	100	
Eggs ...	p. diem	2	
Vegetables ...	grms.	200	
Lentils ...	"	25	
Milk ...	centil.	50	} 30 grms. of sugar allowed for the preparation of any of these three items.
Bread ...	grms.	100	
Benger's Food ...	...	...
Sago ...	grms.	60	
Tapioca ...	"	60	} ...Quantity to be prescribed by the Doctor in charge.
Arrowroot ...	"	60	
Bovril or essence of beefQuantity to be prescribed by the Doctor in charge.
Rice ...	grms.	200	} These items are only to be issued in special cases upon report to the Director for approval.
Potatoes ...	"	125	
Butter ...	"	10	
Oatmeal ...	"	60	
Chocolate ...	"	30	

4. In very special cases the number of extras may be increased to five upon immediate report to the Director for approval.

5. Infants who must be fed artificially may be given one of the following :—

Cow's Milk	} Quantity to be prescribed by the Doctor in charge.
Condensed Milk ...	...	...
Glaxo ...	...	...
Farine Lactée ...	...	...
Mellin's Food ...	...	...
Benger's Food ...	...	...
Allenbury's Food ...	...	...

6. Extras not mentioned in the above list cannot be given free to any patient.

7. On admission patients will be placed on sick diet pending decision of the Medical Officer in charge. No stimulant such as wine to be given. If in the opinion of the Medical Officer alcoholic stimulant is necessary, it should be ordered as a drug and supplied by the Dispenser.

8. (132) The Medical Officer in charge shall have power to prescribe a special diet whenever he shall be of opinion that such a course is necessary for the proper treatment of any patient by reason of the disease he is suffering from. Such special diet may consist of such articles of food and beverage and in such quantities as shall be fixed by the Medical Officer.

DIET SCALE FOR THE MENTAL HOSPITAL

Articles	Normal			Sick	Extras (1)
	Euro-pean	Creole	Indian		
Beef ... grams.	225		...	...	Fowl : 340 grams
Bread ... "	450	225	225	225	Eggs
Butter ... "	30	10	10	30	Bovril
Fresh fish (2) ... "	200	200	200	...	Beef : 225 grams
Milk (3) ... centils.	30	10 & 60	10 & 60	100	Rice : 200 grams
Vegetables (4) ... grams.	150	150	150	...	Sugar . not to exceed 100 grams
Dholl, lentils or beans (5) ... "	...	60	60	...	Bread : 225 grams
Rice (6) ... "	30	400	400	...	Milk : 1 litre
Potatoes (7) .. "	250	150	150	...	Vegetables ; 150 grams
Salt fish (8) ... "	...	60	60	...	Arrowroot
Sugar (9) ... "	70	25 & 75	25 & 75	25	Tapioca } 50 grams each
Tea ... "	4	4	4	4	Sago }
Coffee, raw ... "	20	...	...	...	Coffee, raw : 20 grams
Tripe (10) ... "	...	150	...	...	Chocolate : 30 grams
Liver (11) ... "	120	120	...	...	Benger's Food
Fowl (12) ... "	340	...	...	...	Potatoes : 150 grams
Salt ... "	10	10	10	10	
Pistachio oil (13) ... "	...	15	15	...	
Lard (14) ... "	30	...	...	...
Curry powder ... "	3	3	3	...	
Pepper ... "	0.30	0.30	0.30	...	
Flour ... "	0.50	0.50	0.50	...	

- (1) One or more extras may be added to Sick diet only.
- (2) Fresh Fish : 4 days a week.
- (3) Milk : 10 centils for tea daily.
50 centils for breakfast 2 days a week, for Creoles and Indians.
- (4) Vegetables to consist of potherbs or green bredes.
- (5) Dholl, lentils or beans : 5 days a week
- (6) Madagascar, Patna or Mooghy rice may be allowed in the European diet or as an extra in the Sick diet.
- (7) Potatoes : 3 days a week for Indians and 2 days a week for Creoles.
- (8) Salt Fish : 5 days a week.
- (9) Sugar : 25 grams for tea daily.
50 grams for breakfast, 2 days a week, for creoles and Indians.
- (10) Tripe : 2 days a week.
- (11) Liver : 1 day a week for Europeans and Creoles.
- (12) Fowl : 2 days a week.
- (13) Pistachio Oil : 5 grams are allowed for 340 grams fowl or 2 eggs.
- (14) Lard : 5 grams are allowed for 340 grams fowl, or 2 eggs, or 225 grams beef.

